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Patterns in chaos: Composite A'/A probes

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*If you try and take a cat apart to see how it works,
the first thing you have on your hands is a non-working cat.*

Douglas Adams

Abstract

English

This thesis presents a comparative study of composite A'/A constructions as well as a syntactic analysis that allows to systematically investigate and describe such constructions cross-linguistically. In many languages, phrasal movement falls into two types exhibiting mutually exclusive properties; A -movement (e.g. passivization) versus A' -movement (e.g. *wh*-movement, topicalization). Some languages, however, exhibit movement that does not strictly pattern with one of these categories but appears to be "mixed"; within a single movement step, it simultaneously exhibits properties that are standardly associated with A -movement (e.g. the ability to establish binding relations from its landing site, an interaction with case and agreement) as well as such that are associated with A' -movement (e.g. the ability to cross intervening DPs and CP boundaries). Particularly in recent years, and in a featural approach to movement, such derivations have commonly been subsumed under composite $[A'/A]$ probe analyses, suggesting that phrasal movement can, in some cases, be triggered by a fused $[A'/A]$ probe and thereby surface as an A'/A chain. This thesis focuses on a systematic comparison of composite constructions in fourteen languages (of nine different families): Dinka Bor extraction, Mandarin Chinese BEI passives and TP-internal topics/foci, Khanty passives, promotion to pivot in Balinese and Malagasy, Hyperraising (in Brazilian Portuguese, Cantonese, Mongolian, Nez Perce, Romanian, Turkish) and long-distance agreement (in Innu-Aimûn, Passamaquoddy, Tsez). My research question is whether A'/A constructions express random mix-and-match combinations of A' - and A -properties or if they exhibit predictable distributions thereof. I show that cross-linguistically, only a small number of possible A'/A mixtures is attested, which follows a highly systematic pattern: some A'/A properties always cluster together, whilst others are more permissive to variation. Based on these typological findings, I develop a unified syntax for composite $[A'/A]$ probes which distinguishes from all existing ones in the claim that there is no "composite A'/A movement". Even though $[A]$ and $[A']$ features may combine as a composite probe on a single head and as such search for a goal in unison, the movement chain they trigger is either an A -chain or an A' -chain; never a mixed one.

Based on this claim, I present an analysis which allows us to perceive the traditional, binary A'/A distinction as a more fine-grained, tripartite system, consisting of three interacting factors: i) the probing head ($[A']$, $[A]$ or $[A'/A]$), ii) the movement chain (A or A'), and iii) the location of the probing head in the syntactic spine (on C or below). The three factors each determine a subset of A' - and A -properties (for example, the ability to create new antecedents for variable binding ties to the movement chain itself, the repercussion on information-structure or clause-typing ties to the probing head, and the ability to cross a CP boundary ties to the location of the probe). Factors i)-iii) can combine in different ways, resulting in what I term a construction-specific *A'/A signature*; given that i)-iii) influence different sets of A'/A properties, the A'/A signature allows us to predict what exact composition of A' - and A -properties we expect in a given construction. There is only a limited number of possible A'/A signatures in natural language; however, this set is larger than the traditional, binary A'/A distinction, whereby, cases like English A' - and A -movement solely depict two combinatorial options out of many. In the empirical part of the thesis, I apply the A'/A signature to established $[A'/A]$ probe accounts (Dinka Bor, Mandarin Chinese and Khanty), showing that my approach straightforwardly accounts for the A'/A mixtures we find in these languages. Further, I

extend the A'/A signature analysis to Hyperraising and long-distance agreement as well as promotion to pivot in Balinese and Malagasy, showing that it allows us to adequately capture the composite nature of these constructions, too.

Besides presenting an A'/A signature analysis, the thesis addresses broader questions such as the emergence of composite [A'/A] probes in syntactic structure, the implications of a featural understanding of phrasal movement, the nature of A'- and A-movement, as well as the importance of comparative syntactic investigations.

Abstract

German

Die Dissertation präsentiert eine vergleichende Studie von A'/A-Konstruktionen sowie eine syntaktische Analyse, die es ermöglicht, diese systematisch und sprachübergreifend zu untersuchen und zu beschreiben. In vielen Sprachen teil sich Phrasenbewegung in zwei Typen, die entgegengesetzte Eigenschaften aufweisen; A-Bewegung (z.B. Passivierung) versus A'-Bewegung (z. B. Wh-Bewegung, Topikalisierung). Es gibt jedoch Sprachen mit Anhebungsoperationen, die nicht klar einer dieser beiden Kategorien zugeordnet werden können, sondern "gemischt" erscheinen; diese weisen gleichzeitig Eigenschaften auf, die mit A-Bewegung assoziiert sind (z.B. die Fähigkeit, Bindungsdomänen zu alternieren, oder einen Einfluss auf Kasus und Kongruenz zu haben) sowie solche, die mit A'-Bewegung assoziiert sind (z.B. die Fähigkeit, intervenierende DPs und CP-Grenzen zu überschreiten). Besonders in den letzten Jahren wurden solche Bewegungen häufig mit kombinierten [A'/A] Sonden; das bedeutet, dass die Anhebung durch eine [A] und eine [A'] Sonde gleichzeitig ausgelöst wurde und dadurch sowohl A- als auch A'-Eigenschaften zeigt. A'/A Konstruktionen sind in einer Vielzahl nicht verwandter Sprachen zu finden; diese Dissertation zeigt einen systematischen Vergleich von vierzehn Sprachen (aus neun verschiedenen Familien) auf, alle davon wurden in der bestehenden Literatur mit [A'/A] Sonden beschrieben: Anhebung in Dinka Bor, Mandarin Chinesisch BEI-Passive und TP-interne Topics/Foki, Khanty Passive, Pivote im Balinesischen und Madegassischen, Hyper-Anhebung (im brasilianisch Portugiesischen, Kantonesischen, Mongolischen, Nez Perce, Rumänischen, Türkischen) und Langstreckenkongruenz (in Innu-Aimûn, Passamaquoddy, Tsez). Meine Forschungsfrage befasst sich damit, ob A'/A-Konstruktionen willkürliche Kombinationen von A'- und A-Eigenschaften involvieren oder ob sie vorhersagbare Verteilungen aufweisen. Ich zeige, dass nur eine begrenzte Anzahl unterschiedlicher A'/A Kombinationen sprachübergreifend nachgewiesen werden kann, welche wiederum einem hochgradig systematischen Muster folgen: Einige A'/A-Eigenschaften scheinen stark voneinander abhängig zu sein und sich gegenseitig zu bedingen, während andere variabler sind. Basierend auf dieser Typologie entwickle ich eine einheitliche Syntax für [A'/A] Sonden, die sich von den bestehenden Analysen vor allem dadurch absetzt, dass sie keine "gemischte A'/A-Bewegung" postuliert. Obwohl sich [A]- und [A'] Merkmale zu einer kombinierten [A'/A] Sonde zusammenschließen und als solche gemeinsam nach einem Ziel suchen können, ist die Bewegung, die sie auslösen entweder A- oder A'-Anhebung. Diese Annahme ermöglicht uns, die traditionelle, binäre A'/A-Unterscheidung als ein nuancierteres System zu betrachten, bedingt durch drei miteinander interagierende Faktoren: i) die Sonde ([A'], [A] oder [A'/A]), ii) die Bewegungskette (A oder A'), und iii) der Ort der Sonde in der Struktur (auf C oder tiefer). Diese drei Faktoren bedingen jeweils eine Teilmenge von A'- und A-Eigenschaften (zum Beispiel hängt die Fähigkeit, neue Antezedenzen für Variablenbindung zu schaffen, mit der Art der Anhebung zusammen, wohingegen Informationsstruktur oder Satzartalternationen durch die Sonde selbst determiniert werden, und die Fähigkeit, eine CP-Grenze zu überschreiten, allein durch die syntaktische Höhe der Sonde bestimmt wird). Ich schlage vor, dass i)-iii) in natürlicher Sprache auf verschiedene Arten miteinander kombiniert werden können, was zu einer konstruktionsspezifischen A'/A-Signatur führt. Unter der Annahme, dass i)-iii) unterschiedliche Teilmengen von A'/A-Eigenschaften bedingen, ermöglicht

uns die A'/A-Signatur, vorherzusagen, welche Zusammensetzung von A'- und A-Eigenschaften wir in einer bestimmten Konstruktion erwarten. Eine weitere Vorhersage meiner Arbeit ist, dass es in natürlichen Sprachen nur eine begrenzte Anzahl möglicher A'/A-Signaturen und damit A'/A Kombinationen gibt; obgleich begrenzt, ist diese Anzahl dennoch größer als die traditionelle, binäre A'/A-Unterscheidung. Im empirischen Teil der Dissertation wende ich die A'/A-Signatur auf bereits bestehende [A'/A] Analysen an (Dinka Bor, Mandarin Chinesisch und Khanty) und zeige, dass mein Ansatz die A'/A Kombinationen, die wir in diesen Sprachen finden, vorherzusagen vermag. Darüber hinaus erweitere ich die A'/A Signatur auf Hyper-Anhebungsstrukturen und Langstreckenkongruenz sowie Pivotanhebung im Balinesischen und Madegassischen und zeige, dass auch diese als gemischte A'/A Konstruktionen analysiert werden können.

Abgesehen von der A'/A-Signaturanalyse befasst sich die Arbeit mit weiterreichenden Fragen wie dem Entstehen von kombinierten [A'/A] Sonden in der syntaktischen Struktur, den Implikationen eines merkmalsbasierten Verständnisses von Phrasenbewegung, der Natur von A'- und A-Bewegung sowie der Notwendigkeit von komparativ syntaktischer Studien.

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List of Abbreviations

1	1st Person
2	2nd Person
3	3rd Person
ABL	Ablative
ABS	Absolutive
ACC	Accusative
ADNOM	Adnominalizer
AI	Animate intransitive
AN	Animate
AP	Antipassive
APPL	Applicative
ASP	Aspectual marker
ATTR	Attributive
AV	Agent/ Actor Voice
C	Complementizer
CAUS	Causative
CCA	Cross-clausal A-dependency
CJ	Conjunct
CL/CLF	Classifier
CONJ	Conjunctive
COP	Copula
CS	Construct state
CV	Circumstantial Voice
DAT	Dative
DECL	Declarative
DEF	Definite determiner
DEM	Demonstrative
DIR	Direct
DOM	Differential object marker
EMPH	Emphatic
EPH	Ephenthetic
ERG	Ergative
ESS	Essive
EVID	Evidential
EXP	Experiential aspect
EXST	Existential marker
FAM	Familiar
FOC	Focus
FUT	Future
FV	Final vowel
GEN	Genitive
HAB	Habitual
HON	Honorific

HyRtO	Hyperraising to object
HyRtS	Hyperraising to subject
I, II, III, IV, V,...	Noun class
IC	Initial change
IMPERF	Imperfective
IN/INAN	Inanimate
INF	Infinitive
INSTR	Instrumental
INV	Inverse
IPFV	Imperfective
IRR	Irrealis
ITR	Intransitive
LDA	Long-distance agreement
LOC	Locative
LV	Locative Voice
MOD	Modification marker
MSD	Masdar (verbal noun)
NEG	Negation
NF	Non finite
NMLZ	Nominalization/ nominalizer
NOM	Nominative
O/OBJ	Object
OBLV	Oblique Voice
OBV	Obviative
OM	Object marker
OV	Object Voice
P	Preposition
PART	Participant
PASS	Passive
PFV	Perfective
PG	Parasitic gap
PIV	Pivot
PL	Plural
POL	Polite
POSS	Possessive
PRET	Preterit
PRF	Perfect
PROG	Progressive
PROX	Proximal/ proximate
PRS	Present Tense
PRT	Particle
PST	Past
PTCP	Participle
PV	Patient Voice
Q	Question particle
REFL	Reflexive
REL	Relativization, Relativizer
RM	Relative marker
S(G)	Singular
SBJ	Subject
SFP	Sentence final particle

SM	Subject marker
SV	Subject Voice
TA	Transitive animate
TA+O	Transitive animate + secondary object
TI	transitive inanimate
TOP	Topic
TR	Transitive
WCO	Weak crossover

Für meine Oma Renate

Chapter 1

Introduction

1.1 Main Claim

This thesis investigates composite A'/A constructions from a comparative perspective. In many languages (e.g. English), phrasal movement falls into two types exhibiting mutually exclusive properties; A -movement (e.g. passivization or subject raising) versus A' -movement (e.g. *wh*-movement, topicalization, focalization or relativization). Some languages, however, exhibit movement operations that do not strictly pattern with either A - or A' -movement but appear to be a mixture of the two, referred to as "composite A'/A constructions". Particularly in recent years, such derivations have commonly been subsumed under composite $[A'/A]$ probe analyses. The main question of this thesis is whether composite constructions express random mix-and-match combinations of A' - and A -distinguishing properties (such as weak crossover effects, the creation of new antecedents for anaphor binding, reconstruction effects, parasitic gap licensing, information-structural/clause-typing effects, the restriction to nominals/ ϕ goals, the interaction with case, minimality restrictions, and the ability to cross CP boundaries) or exhibit predictable distributions thereof. Drawing on data from fourteen languages (of nine language families), I show that empirically, the mixture of A' - and A -properties in composite A'/A constructions is highly systematic: only a small number of different combinations is attested cross-linguistically. Based on these findings, I develop a unified syntax for composite $[A'/A]$ probes that is on one hand sufficiently flexible to capture the variation we find, whilst on the other hand constrained enough to not predict unattested patterns. My analysis distinguishes from all existing ones in the claim that there is no "composite A'/A movement". Even though $[A]$ and $[A']$ features may combine to a composite probe and such a probe searches for a goal in unison, the movement chain it triggers is either an A -chain or an A' -chain; never a mixed chain. This only becomes evident from a comparative perspective, which shows that a certain subset of A'/A distinguishing properties (namely, weak crossover effects, the creation of new antecedents for anaphor binding, parasitic gap licensing, the ability to undergo case assignment at the landing-site, the ability to feed subsequent A -movement, and, to some extent reconstruction effects (although these are sensitive to some language-specific variation) always patterns together in its values. There are exactly two attested combinations of the properties listed above, both in composite as well as in bare (A - or A' -) constructions, summarized in table 1.1. All other combinations of these properties are unattested.

	i)	ii)
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct (for principle C)	mostly no	mostly yes
interacts with case	+	–
feeds subsequent A-movement	+	–

TABLE 1.1: Two possible combinations for movement

Column i) clearly reflects A-movement whilst ii) depicts A'-movement; the fact that this even holds in composite derivations shows that the movement chain itself is either A or A', never a mixture of the two. The true locus of A'/A mixture roots in four other properties: the restriction to ϕ -goals, information-structural or clause-typing effects, the ability to skip intervening ϕ -goals and the ability to partake in ϕ -agreement at the landing-site. I suggest that these four tie to the probing head, instead of the movement chain itself, and thereby allow for more variation; if a composite probe induces movement, it exhibits positive values for all four, whilst if a bare [A] or [A'] probe induces movement, the construction only requires a subset of the four, summarized in table 1.2.

	[A]	[A']	[A'/A]
restricted to nominals/ ϕ -goals	+	–	+
info.-struct./ clause-typing effects	–	+	+
can bypass intervening ϕ -goal	–	+	+
can induce ϕ -agreement	+	–	+

TABLE 1.2: The locus of the A'/A mixture

One property in which we find unpredictable variation is the ability for movement to cross a CP boundary. I tie this property to the locus of the probe; if a probe is located on phasal C, it allows for movement to proceed across the CP clause boundary, irrespective of whether movement is an A'- or an A-chain. This analysis allows us to perceive the traditional, binary A'/A distinction as a more fine-grained, tripartite system, permitting variation in three factors: i) the probing head [A'], [A] or [A'/A], ii) the movement chain (A or A'), and iii) the location of the probing head (on C or lower, e.g. on Voice). Different combinations of i)-iii) derive what I call the language- or construction-specific A'/A *signature*: it reflects in what way i)-iii) are combined in a specific construction and thereby predicts the A'- and A-properties this construction will exhibit. For example, one possible A'/A signature is such which involves an [A'/A] probe, inducing A-movement, located on phasal C; the construction will exhibit the combination of A'/A properties listed in table 1.3 and is, for example, found in Dinka Bor extraction (van Urk, 2015).

i) [A'/A] probe	<i>restricted to ϕ-goals, involves information-structural effects, can skip intervening DPs, triggers ϕ-agreement at landing-site</i>
ii) A-movement	<i>obviates weak crossover, creates new antecedents for anaphor binding, lacks reconstruction effects, interacts with case-assignment, may feed into subsequent A-movement</i>
iii) [A'/A] on C	<i>can cross CP boundary</i>

TABLE 1.3: An exemplary A'/A signature

There is only a limited set of possible A'/A signatures in natural language; this set, however, is larger than the traditional, binary A'/A distinction. Under this analysis, English A'- and A-movement only depict two possible A'/A signatures out of many. In the course of this thesis, I present other, likewise predicted A'/A signatures, drawing on data from Nilotic Dinka Bor, Austronesian Balinese and Malagasy, Mandarin Chinese, Uralic Khanty, as well as from a variety of languages allowing Hyperraising (Brazilian Portuguese, Cantonese, Mongolian, Nez Perce, Romanian, and Turkish) and such exhibiting long-distance agreement (Algonquian Innu-Aimûn and Passamaquoddy, Northeast Caucasian Tsez). The main contributions of this thesis are: i) to show that even in composite A'/A constructions, a binary partition into A'- and A-movement can be upheld, ii) to present a syntactic tool, the A'/A signature, which allows us to detect systematic patterns in A'/A constructions as well as facilitates future investigation of mixed A'/A derivations, iii) to evaluate what we are buying into if we include [A'/A] probes into our current syntactic framework, how they can enrich our theories but also what difficulties we might face when endorsing them, iv) to substantiate the arguments in favor of a featural implementation of phrasal movement (instead of a purely structural-positional one), v) to summarize, compare and evaluate the existing composite A'/A approaches, and vi) to highlight the importance of comparative syntax, as only such allows us to reveal patterns that remain hidden from a single-language-perspective.

1.2 Brief Outline

In brief, the thesis is structured as follows: I start by introducing the A'/A distinction, the concept of composite [A'/A] probes and existing accounts thereof. I then propose a uniform syntactic analysis for [A'/ ϕ] probes which accounts for the systematic patterns we find in mixed A'/A constructions cross-linguistically. The analysis allows us to understand the binary A'/A distinction as a tripartite A'/A signature, flexible in three loci: i) the movement chain, ii) the probing head, iii) the location of the probe. I argue that different combinations of i)-iii) account for the attested mixtures of A'- and A-properties, both in bare A- and A'-constructions as well as in mixed A'/A ones. I substantiate the claims with an outline of different, empirically attested A'/A signatures in a set of 15 (mostly unrelated) languages. After that, I walk through the discussed languages and constructions each by each: I start by applying the [A'/A] analysis to cross-clausal A-dependencies (Hyperraising and long-distance agreement), showing that it can predict the empirical A'/A signatures we find in these constructions. I then do the same for promotion to pivot in Balinese and Malagasy; I apply the [A'/A] analysis proposed before and show how it captures the A'/A signature of the two Austronesian languages. Last, I discuss existing, elaborated [A'/A] analyses for Dinka (van Urk, 2015), Mandarin Chinese (Chen, 2023) and Khanty (Colley and Privoznov, 2020), and show how they can be

easily refined in order to be couched into a uniform $[A'/A]$ analysis, which allows us to account for each of their empirical A'/A signatures.

Chapter 2 gives an overview of the traditional A'/A distinction, discusses featural versus positional approaches thereof, present what constructions classify as "composite A'/A derivations" and summarizes, compares and evaluates existing accounts on $[A'/A]$ probing.

Chapter 3 briefly states the relevant syntactic preliminaries of the thesis; movement is the result of Agree and Merge, A-movement is induced by a $[\Phi]$ probe, merged with an $[EPP]$ -sub-feature, both CP and VoiceP are phasal and all movement proceeds successive-cyclically, mediated by probing heads.

Chapter 4 presents a unified syntax for $[A'/\phi]$ probes. The main claims are that composite probes search for a goal in unison but only one part of the probe induces movement; thereby, movement itself is either an A-chain or an A' -chain, never mixed. Composite probes are insensitive to defective intervention, can be located on Voice and/or C and have different pathways of how to enter a derivation (either in a parametric fashion, e.g. via ϕ -under-inheritance or via derivation, e.g. phrase fusion). It lays the theoretical ground for the A'/A signature.

Chapter 5 introduces the A'/A signature, which is contingent on the syntax developed above and suggests that the traditional A'/A distinguishing properties tie to three independent syntactic factors: i) the probing head ($[A']$, $[A]$ or $[A'/A]$), ii) the movement chain (A or A') and iii) the location of the probe in the functional spine. Different combinatorial possibilities of i)-iii) predict the empirically attested patterns, both for composite A'/A , as well as bare A- or A' -constructions. I draw on movement data from English, Dinka, Balinese, Malagasy, Mandarin Chinese, Khanty, as well as languages that allow Hyperraising or long-distance agreement.

Chapter 6 presents an $[A'/A]$ analysis for cross-clausal A-dependencies (CCA) in a variety of unrelated languages. CCAs are constructions in which an A-dependency crosses a CP clause-boundary; e.g. Hyperraising (to subject or object) and long-distance agreement. The analysis employs an $[A'/A]$ probe located on embedded C, mediating cross-clausal A-movement or cross-clausal agreement. Empirically, we find two possible A'/A signatures in CCA configurations; both are predicted and can be accounted for via the uniform composite probe analysis.

Chapter 7 introduces an $[A'/A]$ analysis for Balinese and Malagasy promotion to pivot, extending existing approaches (e.g. van Urk, 2015; Erlewine, Levin, and van Urk, 2017; 2019). I propose that these two languages undergo a process of topic-as-subject reanalysis, which goes hand-in-hand with the formation of a non-canonical passive. The process involves a composite probe in the left periphery as well as one in Voice when not the external but the internal argument is extracted.

Chapter 8 summarizes existing A'/A analyses for Dinka (van Urk, 2015), Mandarin Chinese (Chen, 2023), and Khanty (Colley and Privoznov, 2020), and shows that all exhibit predictable A'/A signatures. In the end, I briefly discuss English *tough*-movement, which has received an A'/A analysis in Longenbaugh, 2017, discussing how it relates to the A'/A signature.

Chapter 9 concludes and points out open ends.

1.3 Chapter 2: The A'/A Distinction and Composite Probes

In Chapter 2, I present an overview of the traditional A'/A distinction, discuss featural versus positional approaches thereof, present constructions that neither pattern strictly as A- or A'-movement and fall under the umbrella term "composite A'/A derivations". Further, I summarize, compare and evaluate existing accounts on [A'/A] probing, pointing out where they resemble each other as well as where they deviate from each other.

The A'/A distinction. I start by reviewing the classical A'/A distinction: phrasal movement is traditionally divided into two kinds, A (argument) movement and A' (non-argument) movement, reflected by a set of correlating properties, summarized in table 1.4.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	no	mostly yes
interacts with case/ ϕ	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 1.4: The full A'/A distinction

There are two broad approaches of how to implement the A'/A distinction syntactically: on one hand, there are structural-positional approaches which tie the nature of the movement chain to the structural height of its landing-site: A'-movement targets higher locations in the functional spine (non-argument positions like CP) than A-movement does. Opposed to that stand featural approaches which tie the A'/A distinction to the type of feature that induced movement: [A'] features like [wh], [rel], [top] or [foc] trigger A'-movement whilst [A] features like [ϕ] or [D] trigger A-movement. I pursue a featural understanding of the A'/A-distinction, the prediction of which is that A'- and A-movement does not necessarily need to be reflected in its syntactic height. A further prediction of a featural approach is the existence of composite [A'/A] probes. If both A- and A'-movement are initiated by probing features and features can, in principle, bundle together on a single head, we expect that there exist [A'/A] probes, inducing mixed A'/A constructions.

Composite A'/A constructions. Composite A'/A constructions are movement operations that exhibit a mixture of A'- and A-properties (table 1.4) within a single movement operation. The relevant examples for composite constructions in this thesis are in Dinka extraction (van Urk, 2015), Mandarin Chinese and Khanty non-canonical passives (Chen, 2023; Colley and Privoznov, 2020), Mandarin Chinese TP-internal topics and foci (Kuo, 2009; Chen, 2023), promotion to pivot in Balinese

and Malagasy (Paul, 2000; Pearson, 2005; Erlewine, Levin, and van Urk, 2017; 2019; Lohninger and Katochoritis, to appear), A-movement across a CP boundary (= Hyperraising) (Wurmbrand, 2019; Lohninger, Kovač, and Wurmbrand, 2022; Zyman, 2023), long-distance agreement across a CP boundary (Bruening, 2001b; Mursell, 2021; Grishin, 2023).¹ All of these languages/ constructions have received composite probe analyses. This means, the relevant movement chain is induced by a bundled, composite $[A'/A]$ probe and thereby exhibits both A- and A'-properties at the same time.

Existing A'/A accounts. In the last ten years, the theoretical research on composite probes flourished and brought to light a broad range of different composite probe analyses. However, there is very little agreement on the exact syntax of $[A'/A]$ probes; therefore, approaches differ strongly from each other in a variety of theoretical aspects: i) what phenomenon they aim to describe, ii) which exact features they combine within a composite probe, iii) on which functional head(s) they locate the $[A'/A]$ probe(s), iv) how they suggest that composite probes enter a derivation and v) what goals a composite probe is sensitive to, vi) how they describe the probing mechanism, the feature architecture and the search space of composite probes. I discuss, compare and evaluate the existing approaches, concluding that they can be divided roughly into two types: i) such which account for pure A'-extraction that is restricted to the closest nominal (but does not show any other A-properties), often employing an $[A'/D]$ probe and ii) such which derive movement operations with a mixed A'/A profile, often accounted for by an $[A'/\phi]$ probe. I focus on the latter type; $[A'/\phi]$ probes and constructions with a properly mixed A'/A profile. The aim of this thesis is to understand how such probes operate, what movement operations they induce and how we can capture them under a uniform syntax in order to counteract the seemingly "anything-goes" impression that composite probing tends to evoke.

The gap this thesis fills. The existence of composite A'/A constructions alone is not yet an argument against a positional or in favor of a featural approach. If composite A'/A constructions were uniform across languages (that is, if all composite constructions involved the same mixture of A'- and A-properties), then we could capture them easily under both approaches: in a positional understanding, we could simply postulate an additional "A'/A position" in the functional spine (as is, for example, suggested in Bošković, 2024). In a featural understanding, we could state that an $[A'/A]$ probe induces a third kind of movement chain; mixed A'/A movement (as van Urk, 2015; Longenbaugh, 2017 or Chen, 2023 do). However, composite A'/A constructions do not all exhibit the exact same mixture of A'- and A-properties; we find slightly different patterns in almost all constructions. Even though regularities are noticeable in the attested mixtures, it would be empirically inadequate to postulate that there is only one kind of "composite A'/A movement"; rather, there seem to be different forms of "composite A'/A movement". In our current theory, this is neither captured by a positional, nor a featural approach to the A'/A distinction. What is missing and what we need is a system to explain, restrict and predict different attested combinations of A'- and A-properties. In order to do so, a featural understanding of the A'/A distinction provides us with better tools than a positional

¹The cited references are primarily those which present composite probe analyses for the phenomena under investigation.

approach does; it allows for more loci of language-specific parametrization and variation. The gap this thesis fills is to bring forward a uniform syntax for $[A'/A]$ probes that is both flexible enough to account for different attested A'/A mixtures whilst still rigid enough to not over-generate unattested patterns. Such an analysis is presented in chapter 4.

1.4 Chapter 3: Syntactic Preliminaries

In chapter 3, I briefly present some syntactic preliminaries. The thesis is set in a minimalist framework of generative grammar, in which phrasal movement is established via Merge and Agree; it is the result of a probe-goal relation between a functional head and a c-commanded phrase. The syntactic preliminaries are divided into two broad topics: first, I discuss the **trigger for A-movement**, suggesting that A-movement is triggered by a $[\phi]$ -probe which is merged with a movement-inducing sub-feature [EPP]. I briefly discuss the relationship between A-movement, case (abstract and morphological) and ϕ -agreement, suggesting that the three are to some degree independent operations but usually coincide on the same element. Second, the thesis is set in a framework where both **CP and VoiceP are phasal** and all movement (A and A') must proceed successive-cyclically through their left edges. Both terminal as well as intermediate movement are induced by probing heads. In the end of this chapter, I give a list of the languages that form the empirical base for the claims developed in this thesis.

1.5 Chapter 4: A Unified Syntax for Composite Probes

Chapter 4 presents a unified syntax for composite $[A'/\phi]$ probes. I address the following questions: does the Ban on Improper Movement still hold for movement chains induced by composite probes? What kind of movement chain are we dealing with when it was triggered by an $[A'/A]$ probe? Does mixed A'/A movement exist? If yes, how does it differ from bare A' - or A-movement? How does the search mechanism of a composite probe look like? How dependent are the two sub-parts of the probe ($[A']$ and $[A]$) on each other? Can they only act in unison or may they split up and act independently? What counts as the "closest goal" for a composite probe and how do we deal with partly fitting goals? Which structural heads can (or cannot) carry composite probes? How do composite probes enter the syntactic derivation? Can they co-exist with bare $[A]$ or $[A']$ probes or are they a replacement thereof? The aim of the chapter is to discuss these questions and present a syntax that addresses and captures them in a systematic way.

The empirical patterns in composite A'/A constructions. The analysis developed draws on data from Balinese and Malagasy promotion to pivot, Dinka Bor extraction patterns, Khanty and Mandarin Chinese passives, Mandarin Chinese low foci/topics, as well as cross-clausal A-dependencies (such as Hyperraising and long-distance agreement) in a set of unrelated languages (Brazilian Portuguese, Cantonese, Innu-Aimûn, Mongolian, Nez Perce, Passamaquoddy, Romanian, Tsez, and Turkish). All of these languages have received (more or less explicit) composite $[A'/A]$ analyses; however, most approaches only account for a single language and set aside a comparative investigation. I show that, when put next to each other, composite A'/A constructions exhibit highly systematic and restricted mixtures of A' - and A-properties, summarized in table ???. What we see in this table is that there appear

to be only four possible combinations of A'- and A-properties. When looked at it in even more detail, we see that even these four are not random at all. Many properties appear in all constructions. The main locus of variation lies in line i) (when compared to (i-iv)) as well as in the last two columns (A-minimality and the ability to cross a CP boundary). Whilst only chapter 5 introduces the lion's share of the relevant empirical data, this chapter focuses on establishing a theoretical analysis that accounts for the patterns shown in table 1.5.

	case	WCO	feeds anaph. bind.	PG	feeds A- mvt	re- con- structs	info- struct. effects	restr. to ϕ - goal	ϕ - agree	A- mini- mal	can cross CP
i)	×	✓	×	n/a	×	✓	✓	✓	✓	×	✓
ii)	✓	×	✓	×	✓	×	✓	✓	✓	×	✓
iii)	✓	×	✓	n/a	✓	×	✓	✓	✓	×	×

TABLE 1.5: Empirically attested combinations of A'/A properties (in mixed configurations)

- i) Long-distance agreement
- ii) Dinka, Balinese, Malagasy promotion to pivot, Hyperraising to subj./obj.ⁱ
- iii) Mandarin BEI passives & low topics/foci, Khanty passives

ⁱ Hyperraising (ii.) is often A-minimal, contrary to what is indicated in the table; see section 4.9 for discussion

The syntax in a nutshell. The analysis consists of the following claims, many of which have precedents in existing accounts:

i) **[A'/A] probes search for a fully fitting A'/A goal.** This means, they will only agree with a goal that carries both [ϕ] and [A'] features.

ii) **Composite probes are not sensitive to defective intervention.** This means, they can skip partly fitting goals (e.g. a bare ϕ -goal) in favor of a better fitting, lower goal. Thereby, the movement a composite probe induces can cross a DP; a property I summarize as A'/A minimality. Apparent subject restrictions in [A'/A] probing (e.g. in Hyperraising) stem from a combination of the movement chain invoked and VoiceP phasality.

iii) **"Composite/mixed A'/A movement" does not exist.** Even though the probe may be composite, the movement chain is not. An [A'/A] probe induces either A- or A'-movement of the goal it found. A-movement abstracts over individuals whilst A'-movement abstracts over choice functions. A composite probe can be merged in two ways; either with a strong, movement-triggering [A] feature or with a strong, movement-triggering [A'] feature. If the [A] feature is merged strong, the probe is indicated as [A'/•A•] and will induce A-movement of its goal. If the [A'] feature is merged strong, the probe is indicated as [•A'•/A] and will A'-move its goal. Thereby, movement induced by an [A'/A] probe is subject to the Ban on Improper Movement just like any other A- or A'-movement chain is.

iv) **Composite [A'/A] probes can occur on the phasal heads C and Voice;** the two are independent from each other. This means, we find constructions with [A'/A] only on Voice, constructions with [A'/A] only on C and constructions with [A'/A]

on both Voice and C.

v) **When no fully fitting goal is found, composite probes may split up, and probe independently for two different goals.** Independent probing is a language-specific last-resort option, regulated by an *hierarchical independent probing rule*. It requires the composite probe to first try to find a fully fitting goal, then (if no full fit is found) allows it to split up, and, if no two goals are available either, permits one of the features to fail altogether.

vi) **Composite probes have different ways to enter a syntactic derivation;** they can be the result of parametric alternations like ϕ -feature under-inheritance, occur through derivational processes (like head or phrase fusion), root in language change (such as topic-to-subject grammaticalization) or be introduced as forms of non-canonical passive heads. For this reason, composite probes often emerge only very construction-specifically and may co-occur with bare [A'] or [A] probes in the same language.

1.6 Chapter 5: Refining the A'/A Distinction: The A'/A Signature

Chapter 5 is the empirical and typological core of the thesis. I show that the empirically attested mixtures of A'- and A-properties in composite A'/A constructions are neither random, nor unpredictable, but highly systematic. The composite probe analysis introduced in chapter 4 equips us with all necessary tools to predict the combinations we find: I proposed that an [A'/A] probe can either induce A- or A'-movement. This renders four overall combinations of probing head and movement chain, listed in (1).

- (1)
 - a. [A'] + A'-movement
 - b. [A] + A-movement
 - c. [A'/A] + A'-movement
 - d. [A'/A] + A-movement

The only thing left to do now is to see which A'/A properties pattern consistently into two types (those will be the ones tracking the movement chain) and among which properties we find variation (those will be the ones tracking the probing head). Based on these assumptions, I suggest a refinement of the binary A'/A distinction by replacing it with a more fine-grained, tripartite system: the *A'/A signature*. The A'/A signature consists of three syntactic factors: i) the quality of the movement chain (A or A'), ii) the type of probing head ([A'], [A] or [A'/A]), and iii) the location of the probe (on C or below). The traditional A'/A properties spread over these three factors, or, put differently, each factor i)-iii) influences a certain subset of properties, shown in table 1.6.

i)	movement chain:	A' or A	$\Rightarrow$ case-marking, antecedents for anaphor binding, WCO, PGs, feeding subsequent A-movt, reconstruction effects
ii)	probing head:	[A'], [A], [A'/A]	$\Rightarrow$ restriction to nominals, minimality effects, information-structural/ clause-typing effects, Φ -agreement
iii)	location of probe:	on C or below	$\Rightarrow$ (dis)ability to cross CP

TABLE 1.6: The A'/A signature: three factors of A'/A properties

$\Rightarrow$ i) **The properties tracking the movement chain (A or A')** are accounted for in the following way: along the lines of van Urk, 2015, I assume that A-movement abstracts over individuals whilst A'-movement abstracts over choice functions; only the former allows to bind variables from its landing site (thereby obviating weak crossover effects and creating of new antecedents for anaphor binding) but cannot be coordinated with a parasitic gap adjunct. Next, morphological case-assignment is done via a dependent case algorithm which only operates on A-positions; thereby A- but not A'-movement has repercussions on case. Reconstruction effects tie to the ability to late-merge lexical material in the landing site (Takahashi and Hulsey, 2009); late-merge is only permitted in positions created by A-movement. Last, A'-movement cannot feed into A-movement; the Ban on Improper Movement is an independent, language-universal constraint which follows from the timing of syntactic operations (Abels, 2007). The two options for movement are outlined in table 1.7.

	A-movement	A'-movement
<i>Feeds case</i>	✓	×
<i>Induces WCO</i>	×	✓
<i>Feeds anaphor binding</i>	✓	×
<i>Licenses parasitic gaps</i>	×	✓
<i>Can feed further A-movement</i>	✓	×
<i>Must reconstruct</i>	no	mostly yes

TABLE 1.7: A'- versus A-movement

$\Rightarrow$ ii) **The properties tracking the probing head ([A'], [A] or [A'/A])** show what goal the probe searched for and agreed with; if a composite probe is involved in the search process, it can only establish agreement with a fully fitting A'/A goal. Such a goal must carry both [Φ] as well as [A'] (information-structural or operator) features. Since [A'/A] probes are not sensitive to partly fitting goals, the attracted goal does not need to be the closest Φ -goal (A'/A minimality). Further, a [Φ] feature is involved in the probe, thereby it can establish Φ -agreement with the goal (irrespective of whether the movement chain is A' or A). If, on the other hand, a bare [A] or [A'] probe initiates the search process, it only expresses a subset of these properties: if a bare [A] probe induces movement, it requires a Φ -goal and establishes Φ -agreement, however, it does not allow to skip intervening DPs (A-minimality) nor requires the goal to carry information-structural features. If a bare [A'] probe induces movement, it requires its goal to carry [A'] features (information-structural or clause-typing) but not necessarily [Φ] features, thereby allows to skip an intervening Φ -goal (A'-minimal) but cannot establish Φ -agreement at the landing site. The three combinatorial options are summarized in table 1.8.

	[A]	[A']	[A'/A]
restricted to nominals/ ϕ -goals	+	–	+
info.-struct./ clause-typing effects	–	+	+
can bypass intervening ϕ -goal	–	+	+
can induce ϕ -agreement	+	–	+

TABLE 1.8: Properties tracking the probing head

⇒ iii) **The property tracking the location of the probe (on C or below):** if a probe is located on C, the movement it induces will land at SpecCP and can thereby leave the CP clause; this is independent of whether it is A- or A'-movement.

The A'/A signature and the patterns it predicts. Understanding the binary A'/A distinction as tripartite A'/A signature allows us to describe movement operations in a more fine-grained way. If, for example, a movement chain is of type A, it will feed case, obviate WCO and create new antecedents for anaphor binding, will not license parasitic gaps, can feed subsequent A-movement and does not need to obligatorily reconstruct. Since all these properties tie to one and the same factor of the A'/A signature (the quality of movement chain) they always exhibit uniform values. This is empirically attested: we do not find mix-and-match variation among these properties, but there are exactly two possible combinations (A'- and A-movement). Where we find variation is in between two factors of the A'/A signature; for example, A-movement can either be induced by a pure [A] probe or by a composite [A'/A] probe. When triggered by an [A'/A] probe, the construction will exhibit information-structural effects, whilst simultaneously be restricted to ϕ -elements, can skip intervening DPs, and feed ϕ -agreement at the landing site. Last, if a probe is located on C, it allows the movement it attracted to cross a CP boundary (irrespective of whether it is A- or A'-movement).

If we now assume that the three factors of the A'/A signature (movement chain, probing head and location thereof) can combine in different ways, we can make a prediction about which mixtures of A'/A properties should be possible and which should be ruled out. The prediction is borne out: we only find variation between the three factors of the A'/A signature, not within a single factor. The expected (and empirically attested) A'/A signatures are summarized in table 1.9. Crucially, the A'/A signature does not only predict combinations of A'/A properties in composite constructions but also in the well-known, bare A'- and A-constructions. For example, the A'/A signature for English *wh*-extraction consists of an [A'] probe on C, inducing A'-movement. Table 1.9 shows both: bare and composite constructions.

	probe	mvt type	feed case	WCO	anaph. bind.	PG	feed A-mvt	re-constr.	info-struct. effect	ϕ -goal	ϕ -Agr.	minimal	long dist.
i	A'	A'	×	✓	×	✓	×	✓	✓	×	×	A'	✓
ii	A'/A	A'	×	✓	×	✓	×	✓	✓	✓	✓	A'/A	varies
iii	A	A	✓	×	✓	×	✓	×	×	✓	✓	A	×
iv	A'/A	A	✓	×	✓	×	✓	×	✓	✓	✓	A'/A	varies
Movement type									Probe type			Location	

TABLE 1.9: Expected A'/A signatures

- i) English wh-extraction, topicalization, focalization, relativization
- ii) Long-distance agreement
- iii) English raising to subject, passivization
- iv) Dinka, Malagasy, Balinese promotion to pivot; Mandarin, Khanty passives, Mandarin low topics/foci, Hyperraising

TABLE 1.10: Attested configurations for A', A and A'/A derivations

The purpose of the A'/A signature is two-fold: on one hand, it allows us to describe the observed patterns, both in composite as well as bare constructions. On the other hand, it serves as a syntactic tool to detect what movement chain, probing head and probe location we might be dealing with when examining unknown constructions.

1.7 Chapter 6: A'/A in Cross-Clausal A-Dependencies

Chapter 6 presents an [A'/A] analysis for Hyperraising to subject (HyRtS), Hyperraising to object (HyRtO) and long-distance agreement (LDA), showing that all three exhibit systematic and predictable A'/A signatures.² I summarize HyRtS, HyRtO and LDA under the umbrella term "cross-clausal A-dependencies (CCA)". What connects the three is that they establish an A-dependency (ϕ -agreement or A-movement) across a finite CP boundary. In HyRtS constructions, a DP A-moves out of an embedded CP clause and becomes the subject of the matrix clause, shown in (2) for Brazilian Portuguese.

- (2) *Os meninos parecem [que t fizeram a tarefa]*
 the boys seem.3.PL [C t did.3.PL the homework]
 'The boys seem to have done their homework.'
Brazilian Portuguese HyRtS (Nunes, 2009: 5)

In HyRtO constructions, a DP A-moves out of an embedded CP to become the object of the matrix clause, shown in (3) for Mongolian.

- (3) *Bat nokhoi-g chang-aar [t gaikhal-tai gej] khel-sen*
 Bat dog-ACC loud-INSTR [t wonder-with C] say-PST
 'Bat said loudly that dogs are wonderful.'
Mongolian (Fong, 2019: 3)

In LDA, a matrix verb ϕ -agrees with an embedded DP across a CP clause boundary, shown in (4) for Innu-Aimûn.

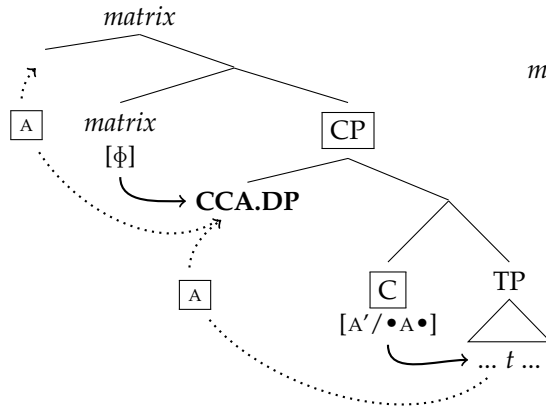
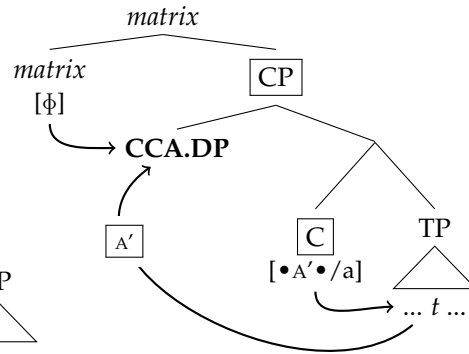
- (4) *Ni-tshissenim-ânân-ø [mûpishtuât Shûshepa Tshân mâk Mânî]*
 1PL-know-1PL-3 [visit Joseph John and Marie]
 'We know that John and Marie visited Joseph.'
Innu-Aimûn (Branigan and MacKenzie, 2002: 388)

I investigate CCA constructions in the following languages.

- (5) a. **HyRtS:** *Brazilian Portuguese, Cantonese*
 b. **HyRtO:** *Mongolian, Nez Perce, Romanian, Turkish*
 c. **LDA:** *Innu-Aimûn, Passamaquoddy, Tsez*

²Much of this chapter is the result of a collaborative project with Iva Kovač and Susi Wurmbrand, published in Lohninger, Kovač, and Wurmbrand, 2022.

Along the lines of Wurmbrand, 2019, Lohninger, Kovač, and Wurmbrand, 2022, I propose a composite probe analysis for CCA, in which the A-dependency is mediated by an $[A'/A]$ probe on embedded C. $[A'/A]$ on C attracts an embedded DP to its specifier, from where it becomes visible to a matrix probe. In HyRtS and HyRtO, $[A'/A]$ induces A-movement, whereas in LDA, $[A'/A]$ triggers A'-movement. In HyRtS and HyRtO, the DP thereby can further A-move to matrix subject or object position whereas in LDA, the DP remains in SpecCP but can be targeted by matrix ϕ -agreement. The structures are depicted in (6).

(6) a. *HyRtS, HyRtO*b. *LDA*

Typology of CCA. I present a comparative investigation of CCA constructions, showing that they exhibit some relevant uniform patterns as well some variable properties. The properties that are uniform across CCA configurations are i) CCA is always optional, alternating with a non-CCA version of the clause, ii) the complement clause is a fully finite CP, iii) the CCA.DP originates in an embedded argument position, from where it moves to embedded SpecCP (and, in case of Hyperraising, further to the matrix clause). The properties which vary across CCA configurations are i) some but not all CCA constructions are restricted to the embedded subject, ii) some CCA constructions obligatorily involve information-structural effects (e.g. a topicality requirement on the CCA.DP) whereas others can lack them, iii) some languages allow long-distance A'-movement to co-occur with CCA, whilst others do not, and iv) CCA involves different movement chains: LDA exhibits A'-movement whereas Hyperraising shows all hallmark properties of A-movement. Table 1.11 summarizes these properties.

Language	CCA	op- tional	emb. CP	emb. mvt	mvt chain	A- min.	info- struct.	add. A'-mvt
<i>Braz. Port.</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Cantonese</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Mongolian</i>	HyRtO	✓	✓	✓	A	✓	×	✓
<i>Nez Perce</i>	HyRtO	✓	✓	✓	A	✓	?	?
<i>Romanian</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Turkish</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Innu-Aimûn</i>	LDA	✓	✓	✓	A'	×	✓	?
<i>Passam.</i>	LDA	✓	✓	✓	A'	×	✓	×
<i>Tsez</i>	LDA	✓	✓	✓	A'	×	✓	×

TABLE 1.11: The typology of CCA

The four non-uniform properties of CCA (the last four columns of table 1.11) are not randomly distributed but divide CCA phenomena into three classes (indicated by the horizontal lines). We see that the (obligatory) information-structural effects correlate with the (in)ability to allow additional A'-movement, whereas subject restriction effects strictly correlate with whether the construction involves A- or A'-movement. As I will show below, both are predicted under a composite probe analysis.

The analysis in a nutshell. The [A'/A] analysis I present is able to account for the typological variation as well as the uniform patterns we find across CCA constructions.

⇒ **Embedded movement and optionality:** CCA is mediated by an [A'/A] on embedded C. [A'/A] attracts a fitting goal and moves it to SpecCP, from where it becomes accessible to a matrix probe. The [A'/A] probe on embedded C stems from phrasal fusion between CP and a higher predication Relator Phrase (RP); fusion is not permitted in all languages, and only allowed under a restricted set of matrix predicates. A fused RP+CP is of the same semantic type as a bare CP, thereby the two can alternate freely. Hence, CCA renders the impression to be optional.

⇒ **Movement chain and A-minimality:**

i) In HyRtO and HyRtS, [A'/A] on C+R triggers A-movement of its goal to SpecCP: thereby, movement to SpecCP can feed into subsequent matrix A-movement but cannot be fed by an initial A'-movement step. Since only C+R carries [A'/A] (but Voice does not), [A'/A] can only see as far as SpecVoiceP (thereby only see the subject). If an object has been moved to SpecVoiceP, it is in principle visible for C. However, most CCA languages do not host an [A] movement probe on Voice. Thereby, the only way for an object to reach VoiceP is via A'-movement. If this is the case, the object can no longer be A-moved to SpecCP, as this would violate the Ban on Improper Movement (BIM). As a result, C+R in HyRtS and HyRtO can only successfully attract the embedded subject, hence appears to be A-minimal.

ii) In LDA, [A'/A] on C triggers A'-movement of its goal to SpecCP: thereby, it cannot feed into subsequent matrix A-movement but is visible for matrix ϕ -agreement. Further, since LDA involves A'-movement, it can be fed by an initially A'-moved element: if an object has been A'-moved to SpecVoiceP, it is visible for [A'/A] on C and be A'-moved to SpecCP (without violating the BIM). Hence, C+R in LDA can

raise any embedded argument, and thereby LDA does not render the impression of A-minimality.

⇒ **Information-structural effects and additional A'-movement:**³ Some languages allow the [A'/A] probe to split up and probe independently if no fully fitting goal is found. If a language allows independent probing, it allows for both A'-movement to co-occur with CCA and for the CCA.DP to lack information-structural effects. This comes about as follows: if no fully fitting goal is found, the probe splits up. If it finds an A'- and a ϕ -goal, then the [A'] part of the composite probe induces long-distance A'-movement whilst the [A] probe mediates CCA. If there are no two goals available but only a ϕ -goal, then the [A'] probe can fail whilst [A] alone mediates CCA. If a language does not allow the [A'/A] probe to split up in the first place, it will permit neither of these two option.

The A'/A signatures of CCA The proposed A'/A analysis predicts the two empirical A'/A signatures we find in CCA constructions. HyRtS and HyRtO involve an [A'/A] probe on C which induces A-movement, thereby exhibits the A'/A signature in table 1.12. Note that some Hyperraising constructions involve A-minimality effects. This is accounted for by a combination of A-movement, VoiceP phasality and the lack of an [A'/A] probe on Voice.

case	WCO	anaph. bind.	PG	feeds A-mvt	re-con-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	A-mini-mality	long dist.
✓	×	✓	n/a	✓	×	✓	✓	✓	×/✓	✓
$\underbrace{\hspace{10em}}_{\text{movement} = A}$						$\underbrace{\hspace{10em}}_{\text{probe} = [A'/A]}$				[A'/A] on C

TABLE 1.12: The A'/A signature of HyRtS and HyRtO

LDA involves an [A'/A] probe on C which induces A'-movement, thereby exhibits the A'/A signature in table 1.13.

case	WCO	anaph. bind.	PG	feeds A-mvt	re-con-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	A-mini-mality	long dist.
×	✓	n/a	n/a	×	✓	✓	✓	✓	×	✓
$\underbrace{\hspace{10em}}_{\text{movement} = A'}$						$\underbrace{\hspace{10em}}_{\text{probe} = [A'/A]}$				[A'/A] on C

TABLE 1.13: The A'/A signature of long-distance agreement

1.8 Chapter 7: A'/A in Austronesian Promotion to Pivot

In chapter 7 I propose an A'/A analysis for promotion to pivot in Balinese and Malagasy. Both Balinese and Malagasy exhibit an Austronesian-style voice system which requires each clause to promote one argument as pivot: the pivot is the most salient one amongst the clausal arguments, is moved to clause-initial or clause-final position and is cross-referenced by dedicated verbal morphology, termed *voice marking*

³This work is the result of a collaborative project with Ka Fai Yip, published in Lohninger and Yip, 2023.

or *voice morphology*. A representative example from Balinese is given in (7). In (7a), the agent is promoted to pivot which triggers agent voice morphology (AV) on the verb and requires the agent (1SG) to move to clause-initial position. In (7b), the object is promoted to pivot, thereby the verb is expressed with object voice morphology (OV) and the object (*the pig*) is moved to the beginning of the clause.

- (7) *Balinese promotion to pivot* (Arka, 2003: 5)
- a. *Tiang numbas bawi-ne punika*
1SG AV.buy pig-DEF punika
'I bought the pig.'
 - b. *Bawi-ne punika tumbas tiang*
pig-DEF that OV.buy 1SG
'The pig was bought by me / The pig, I bought'

Syntactically, Balinese and Malagasy pivots appear to be elements between topics and subjects. Partly along the lines of 2019 (and, to some extent van Urk, 2015), I propose that promotion to pivot in these two languages is an A'/A operation, and involves an [A'/A] probe triggering A-movement.

Typology of subjecthood in Austronesian and origin of [A'/A].

I compare the syntactic status of pivots in Balinese and Malagasy with related languages (Tagalog, Cebuano, Madurese, Indonesian and Acehnese) which shows that Austronesian pivots are not a uniform phenomenon: they align on a cline from topic-like elements to true subjects.⁴ This is on one hand reflected in their A'/A properties (like weak crossover or reconstruction effects), but likewise visible from control (whether the agent or pivot corresponds to the controllee in obligatory control constructions), definiteness restrictions (whether the pivot needs to receive a definite/specific interpretation), and adjacency requirements on non-pivot elements (whether in OV, the non-pivot agent needs to be strictly verb-adjacent), summarized in table 1.14.

	LANGUAGE	Control	Definiteness	Cond. C re-construction	WCO	Non-pivot agent
A'-topic	Tagalog	agent	✓	✓	×	free
A'-topic	Cebuano	agent	✓	✓	?	free
A'-topic	Madurese	agent	✓	✓	?	free (?)
A'/A	Balinese	pivot	✓	✓	×	R-adjacent
A'/A	Malagasy	pivot	✓	×	×	R-adjacent
A-subject	Acehnese	pivot	×	×	×	L-adjacent
A-subject	Indonesian	pivot	×	×	×	L-adjacent

TABLE 1.14: Typology of Austronesian pivots; adapted from Lohninger and Katochoritis, to appear

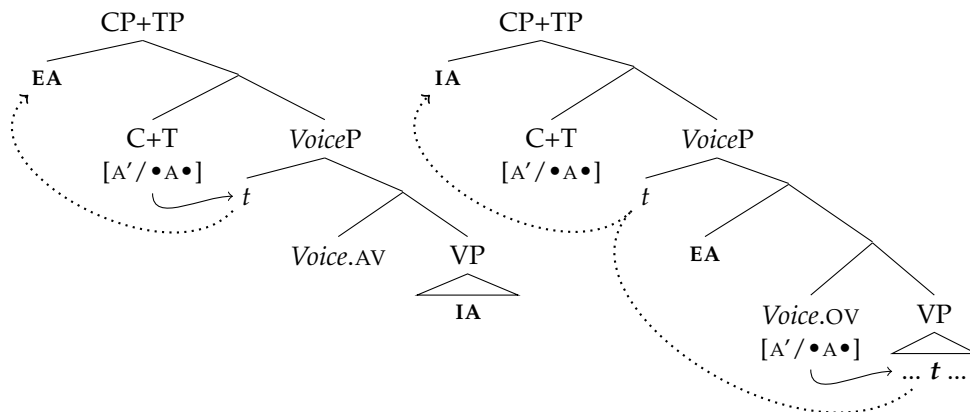
I propose that this cline roots in an ongoing topic-to-subject grammaticalization or topic-as-subject reanalysis process of pivots (see also Patrianto and Chen, 2023a). Balinese and Malagasy are in the middle of this process; their A'/A syntax is an effect of the language change. Topic-to-subject grammaticalization often goes hand-in-hand with passive formation; I suggest that this is also the case in Balinese and Malagasy and that OV constructions (in which an object is promoted to pivot)

⁴This work is the result of a collaborative project with Ioannis Katochoritis, published in Lohninger and Katochoritis, to appear.

thereby syntactically resemble non-canonical passives.

The analysis in a nutshell. I propose that the landing site of pivots is a fused CP+TP projection (TopP+TP, to be precise) whose specifier is both the canonical subject position as well as a topic position. C+T carries an [A'/A] probe which induces A-movement to SpecCP+TP (which serves as the locus for subject licensing). In AV constructions, that is such where the agent is promoted to pivot, only C+T carries a composite probe whilst Voice is merged as a regular, active head (without [A'/A]). In OV constructions, that is such where an object is promoted to pivot, Voice is merged as a non-canonical passive head. It is thematically transitive, that is introduces two arguments, but can license neither of them (SpecCP+TP serves as the only locus of nominal licensing). Further, as a result of the upstairs topic-with-subject fusion, it carries an [A'/A] probe, via which it allows a topical object to A-move to SpecVoiceP. From there, the object becomes accessible to [A'/A] on C+T and is A-moved to SpecCP+TP, where it is licensed as subject of the clause. The agent remains in SpecVoiceP and is licensed via last-resort verbal adjacency. The respective structures for AV and OV are depicted in (8).

- (8) a. *Balinese/Malagasy AV* b. *Balinese/Malagasy OV*



The A'/A signature of Balinese and Malagasy. Balinese and Malagasy both involve an [A'/A] probe on C that triggers A-movement. This renders the attested A'/A signature of the two languages, summarized in table 1.15.

case	WCO	anaph. bind.	PG	feeds A-mvt	re-con-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	A-mini-mality	long dist.
✓	×	n/a	×	✓	✓/×	✓	✓	n/a	×	✓
movement = A						probe = [A'/A]				[A'/A] on C (+ Voice)

TABLE 1.15: The Balinese and Malagasy A'/A signature

1.9 Chapter 8: Cross-linguistic A'/A signatures

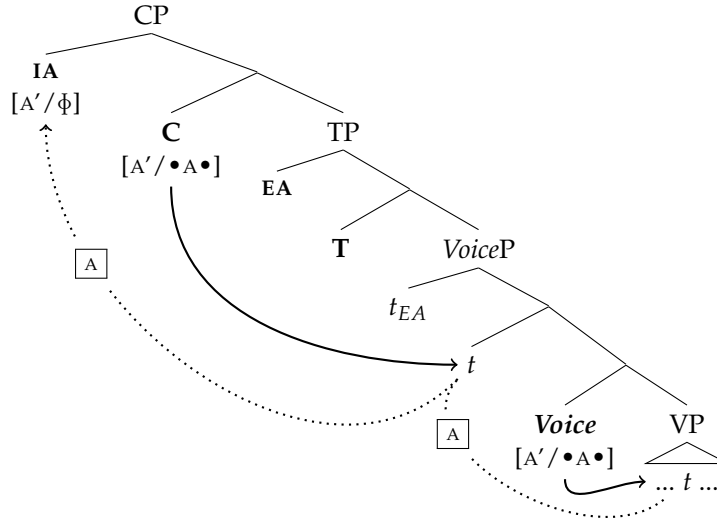
In chapter 8 I discuss constructions for which there exist explicit A'/A analysis: Dinka extraction (van Urk, 2015), Mandarin Chinese BEI passives and low topics/foci (Chen, 2023), Khanty passives (Colley and Privoznov, 2020) and English *tough*-movement (Longenbaugh, 2017). I show that each of them (except for English *tough*-movement) can be couched into the uniform composite probe analysis presented in this thesis and exhibits a predictable, empirical A'/A signature.

Dinka extraction Dinka, like Balinese and Malagasy, exhibits a voice system. van Urk, 2015 proposes that Dinka promotion to pivot/topicalization, wh-movement and relativization are induced by [A'/A] on phasal C and Voice. An example for Dinka topicalization/ promotion to pivot is given in (9) where the object *food* is topicalized/ promoted to pivot: this is reflected by its clause-initial position as well as the voice morphology (OV) on the verb.

- (9) *Cuḡin à-céem Áyèn nè pǎal*
food 3S-eat.OV Ayen.GEN P knife
 'Food, Ayen is eating with a knife.'
Dinka OV (van Urk, 2015: 61)

The proposed analysis for (9) in van Urk, 2015 is the following: Voice carries [A'/A] and attracts an object to SpecVoiceP. From there, it becomes visible to [A'/A] on C and is attracted to SpecCP. I slightly refine van Urk's by suggesting that both [A'/A] probes induce A-movement; the respective structure is depicted in (10).

(10)



I briefly compare the Dinka voice system to Balinese and Malagasy, proposing that they exhibit two different loci in syntax: Balinese/ Malagasy voice morphology reflects different instances of Voice heads (in some way similar to the English active-passive alternation) whilst Dinka voice marking, as van Urk, 2015 assumes, is extraction marking on the C head (similar to English *do*-support), unrelated to argument-structure alternations in the voice domain. Nevertheless, the three languages exhibit a highly similar A'/A signature: I propose that Dinka, just like the two Austronesian languages, involves an A-movement triggering [A'/A] probe (on C and all Voice heads). This correctly predicts the empirical A'/A signature we face in Dinka extraction, summarized in table 1.16.

case	WCO	anaph. bind.	PG	feeds A-mvt	re-con-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	A-mini-mality	long dist.
✓	×	✓	n/a	✓	×	✓	✓	✓	×	✓
movement = A						probe = [A'/A]				[A'/A] on Voice + C

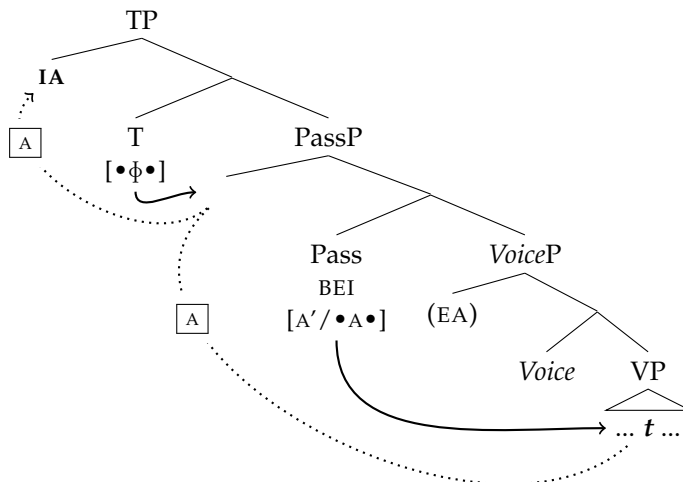
TABLE 1.16: The A'/A signature of Dinka

Mandarin Chinese BEI passives and low topics/foci Mandarin Chinese exhibits two constructions with a composite A'/A profile: BEI-passives in (11a), as well as TP-internal ("low") topics and foci in (11b). Chen, 2023 presents an A'/A analysis for both constructions in which Voice (but not C) carries an [A'/A] probe.

- (11) a. *Lisi bei (wo) male t*
 Lisi BEI (1SG) scold-PRF *t*
 'Lisi was scolded (by me).'
- Mandarin Chinese BEI passive* (Chen, 2023: 36)
- b. *Zhangsan (lian) Lisi (dou) ma-guo t*
 Zhangsan (even) Lisi (DUO) scold-EXP *t*
 'Zhangsan, even Lisi, once scolded (him).'
- Mandarin Chinese low topic/focus* (Chen, 2023: 101)

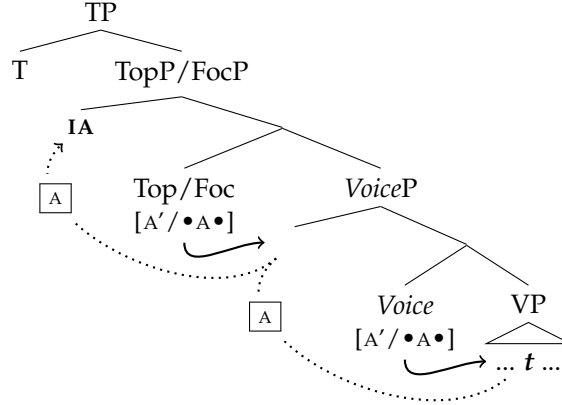
⇒ **BEI passives:** under Chen's analysis, the BEI construction is a non-canonical passive, involving an [A'/A] probe on PassP (which depicts an extended projection on top of VoiceP). [A'/A] on Pass triggers movement of the object to SpecPassP, after which it undergoes a subsequent A-movement step to SpecTP. There, it becomes the canonical subject of the clause. Refining Chen's account, I propose that [A'/A] on Pass triggers A-movement, the respective structure is depicted in (12) (note that it is not fundamentally relevant whether Pass or Voice hosts [A'/A]).

- (12) *Mandarin BEI passive*



⇒ **Low topics/foci:** Chen, 2023 proposes a similar analysis for Mandarin Chinese "low" topics and foci (see (11b)) where an object is moved to a TP-internal topic or focus projection. In Chen's terms, it is first attracted by an $[A'/A]$ probe on Voice and then by another $[A'/A]$ probe on a low Top/Foc head. Under my analysis, both of these probes trigger A-movement; the respective structure is presented in (13).

(13) *Mandarin low topic/focus*



Both Mandarin Chinese BEI passives as well as low topics/foci depict the same A'/A signature, summarized in 1.17: they involve an $[A'/A]$ probe (below C) which induces A-movement.

case	WCO	anaph. bind.	PG	feeds A-mvt	re-constr.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	A-minimality	long dist.
n/a	×	✓	n/a	✓	×	✓	✓	n/a	×	×
movement = A						probe = $[A'/A]$				$[A'/A]$ below C

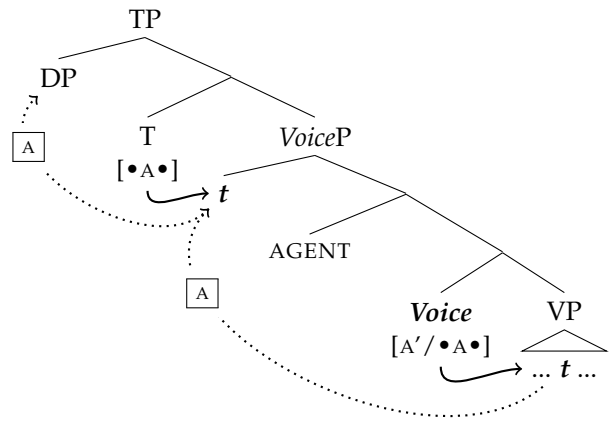
TABLE 1.17: Mandarin Chinese BEI passive & low topic/focus

Khanty passives Last, I discuss Khanty passives which have received an A'/A analysis in Colley and Privoznov, 2020; an example is given in (14).

- (14) *maw-λ-am maša-jen-ə nawr-εm-a t mā-s-i-jət*
candy-PL-1SG Masha-2SG-LOC kid-1SG-DAT *t* give-PST-PASS-3PL
 'My candy was given by (your) Masha to my kid.'
Khanty passive (Colley and Privoznov, 2020: 112)

Colley and Privoznov, 2020 propose that in the Khanty passive, the object is attracted by an $[A'/A]$ probe on T; I refine this analysis and suggest that the $[A'/A]$ probe is located on Voice and attracts A-movement of its object to SpecVoiceP. From there it can move to the canonical subject position in SpecTP. In an A'/A signature terminology, Khanty involves an $[A'/A]$ probe which attracts A-movement of its goal. The respective structure is shown in (15).

(15) *Khanty passive*



Although Colley and Privoznov, 2020 do not bring forward data for all relevant properties to determine the exact A'/A signature of Khanty, the properties for which they do follow an expected pattern signature, summarized in table 1.18.

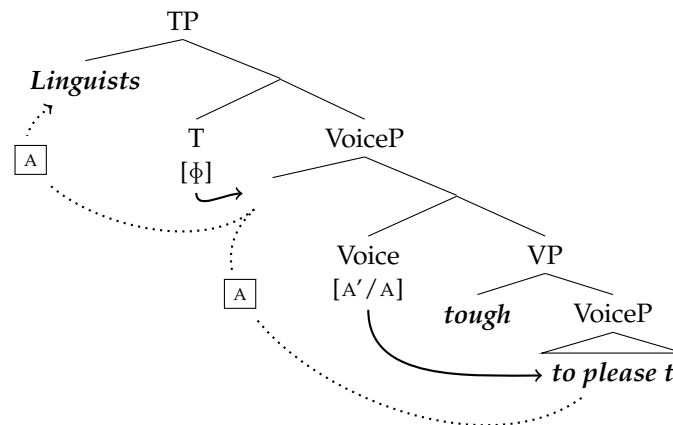
case	WCO	anaph. bind.	PG	feeds A-mvt	re-con-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	A-mini-mality	long dist.
✓	×	n/a	n/a	n/a	×	✓	✓	✓	×	?
movement = A						probe = [A'/A]				[A'/A] on Voice

TABLE 1.18: Khanty passives

English *tough*-movement At the very end of this chapter I briefly investigate English *tough*-movement like (16) which has received an A'/A analysis in Longenbaugh, 2017.

- (16) **Linguists** are tough to please *t*.
- (Hicks, 2017: 1)

Longenbaugh, 2017 proposes that *tough*-movement is mediated by an [A'/A] probe on the *tough* Voice head which attracts an object, and moves it to SpecVoiceP. From there it undergoes a terminating A-step to the subject position, SpecTP. The structure is presented in (17).

(17) *English tough-movement in Longenbaugh, 2017*

Although the analysis seems intriguing, *tough*-movement cannot be entirely captured under an existing A'/A signature; even though it exhibits all properties of an $[A'/A]$ probe being involved (located below C), the movement chain expresses an unexpected pattern: whilst most properties indicate that it should be A-movement, it also licenses parasitic gaps. This is unexpected under the analysis proposed in this thesis. Therefore, I do not involve *tough*-movement into the main discussion but resort to its standard analysis: high base-generation of the *tough*-subject and co-indexation with a null-operator in the embedded, non-finite clause (Chomsky, 1977; 1981; Browning, 1987; Heycock, 1991; Rezac, 2006; Keine and Poole, 2017).

Chapter 2

The A'/A Distinction and Composite Probes

2.1 Introduction

One property of natural language is that it involves movement operations; that it is it allows constituents to appear in a surface positions other than their logical base-position. The sentence *David ate the cookies* can be expressed in different forms, all of which maintain the basic thematic relations but differ in their surface ordering.

(1)	David ate three cookies.	<i>Base-line</i>
a.	The cookies, David ate.	<i>Topicalization</i>
b.	What did David eat?	<i>Wh-movement</i>
c.	The cookies that David ate.	<i>Relativization</i>
d.	The cookies were eaten by David.	<i>Passivization</i>
e.	David seems to have eaten the cookies.	<i>Raising to subject</i>

There are different reasons for why constituents might move away from their base-position; either for information-structural reasons such as question formation or highlighting a particular aspect of the clause, in order to re-organize grammatical functions like subjecthood (in passivization), or, based on more theoretical assumptions, for verbal agreement and case reasons (as is usually assumed for raising to subject). The examples in (1) are referred to as *phrasal movement*, since the moved element corresponds to a (simple or complex) phrase. Phrasal movement is often contrasted with *head movement*, where only the head of a phrase is moved. An example for head movement would be German verb second clauses where the head of TP (T) moves to CP, replacing C. This thesis is concerned solely with phrasal movement and does not investigate instances nor the nature of head movement. There is a long-standing tradition of dividing phrasal movement into two kinds: A-movement, traditionally referred to as movement to an argument position and A'-movement, referred to as movement to a non-argument position (among many others Postal, 1971; Chomsky, 1976; 1981; 1995; Déprez, 1989; Webelhuth, 1989; Mahajan, 1990; Müller, 1995; Williams, 2002; Miyagawa, 2010; Obata, 2010; Obata and Epstein, 2011; van Urk, 2015; Keine, 2016; 2018; Safir, 2019). Raising (to subject/object) and Passivization are treated as A-movement, whereas wh-movement, topicalization, focalization and relativization classify as A'-movement (for the moment being, I set aside scrambling operations which can express properties of either A- or A'-movement).

A-movement	A'-movement
Raising to subject/object	Wh-movement
Passivization	Relativization
	Topicalization
	Focalization

TABLE 2.1: Types of A'- and A-movement

Descriptively, these two kinds of movement express opposed values in various syntactic configurations; A-movement is usually associated with subjects, in that it can change subjecthood properties (as in passivization, (1d)) or is restricted to subjects (as in raising configurations, (1e)) and often has repercussions on case-assignment as well as ϕ -agreement. A'-movement, on the other hand, does not have an effect on the grammatical function of the elements it operates on (e.g. in topicalization, (1a), the external argument remains the subject, irrespective of what element is topicalized); neither is A'-movement related to case-assignment or induces ϕ -agreement. This correlates with the fact that A-movement is restricted to arguments (nominals and ϕ -goals), whereas A'-movement can target any constituent of the clause; non-nominals, non- ϕ -goals, and adjuncts. Further, A-movement cannot leave an embedded CP clause or bypass another ϕ -elements, whereas A'-movement can happen across one (or multiple) CP clause boundaries and bypass a ϕ -elements. Also, A'-movement usually alternates the information-structural set-up of a clause or induces different clause-typing (e.g. change a declarative to an interrogative), whilst A-movement lacks this ability. Further distinctions between A'- and A-movement include reconstruction effects, the creation of new antecedents for variable binding, and parasitic gap licensing, all of which will be examined in the next section 2.3. An overview of the A'/A distinguishing properties relevant for this thesis is presented in table 2.2 and will be elaborated on in the subsequent sections.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	no	mostly yes
interacts with case/ ϕ	+	–
can bypass intervening DPs	–	+
info-structural/ clause-typing effects	–	+

TABLE 2.2: Properties of A'- versus A-movement, adapted from Safir, 2019

The A'/A distinction holds well in English, that is A'-movement patterns with the properties on the right side of table 2.2, whereas A-movement exhibits the properties listed on the left. Apart from English, many languages express a distinction between A'- and A-movement operations and seem to cluster the properties in table 2.2 in many respects. Thus, the A'/A distinction is often perceived as a language universal and is commonly used as syntactic tool to detect and classify movement operations. This thesis is concerned with instances of movement operations that do not strictly classify as either A'- or A-movement, that is configurations which

exhibit properties from both sides of table 2.2 in one movement step. Such constructions are for example found in Nilotic Dinka Bor (van Urk, 2015), Mandarin Chinese (Chen, 2023), Austronesian Balinese and Malagasy (Erlewine, Levin, and van Urk, 2017; Lohninger and Katochoritis, to appear), Uralic Khanty (Colley and Privoznov, 2020) or various languages that allow raising out of finite clauses, termed *Hyperraising* (Wurmbrand, 2019; Lohninger, Kovač, and Wurmbrand, 2022). Many of these mixed configurations have been labeled "composite A'/A movement" (along the lines of van Urk, 2015) and are subsumed under analyses involving composite [A'/A] probes. There is little systematicity in the investigation of composite A'/A derivations, a cavity which this thesis aims to fill.

The A'/A distinction can be syntactically accounted for in two ways; either via structural positions or movement-inducing features. Positional approaches states that A'-movement targets positions high in the clause, associated with the left periphery, whereas A-movement targets argument- and case-positions, found in the inflectional or verbal domain (Chomsky, 1981; Webelhuth, 1989; Mahajan, 1990; Williams, 2002; Müller, 1995; Keine, 2016). A featural approach ties the A'/A distinction merely to which features are involved in movement; [A] features like [ϕ] trigger A-movement whereas [A'] features like [top] trigger A'-movement (Chomsky, 2008; Takahashi and Hulsey, 2009; Obata, 2010; Obata and Epstein, 2011; van Urk, 2015). Even though the distribution of these features along the clausal spine seems to be more or less predetermined (standardly, [A'] features occur in the CP domain whereas [A] features occur lower), nothing prevents an [A] feature in theory to occur higher, e.g. in CP, or an [A'] feature to be realized lower, e.g. in TP. One prediction of a featural (but not of a positional) understanding of movement is the theoretical possibility of probe bundles, that is a combination of [A] and [A'] occurring on a single head. Such probe bundles are referred to as *composite [A'/A] probes* (van Urk, 2015) and are often held accountable for the "mixed" movement dependencies listed above. Particularly in recent research, [A'/A] probes are applied to a broad variety of unrelated configurations, and have been criticized for deriving a too permissive syntax, overgenerating movement dependencies on the one hand and not being able to make fine-grained predictions on the other.

The topics of the current chapter are the properties tracking the A'/A distinction, their origins as well as cross-linguistic exceptions, predictions of a featural understanding of movement, and the application of composite [A'/A] probes across syntactic research. I will discuss why we need composite probes as an explanatory tool but also why they need to be formalized more coherently and systematically. The goal of this chapter is to introduce the more theoretical chapters 4 and 5, which formalize a syntax of composite [A'/A] probes that is able to capture both uniformity as well as variation in mixed A'/A dependencies. The overall goal of the thesis is to discuss the following questions: i) are there systematic patterns in mixed A'/A configurations? ii) Can a binary A'/A distinction be upheld as a language universal? iii) What do composite A'/A derivations teach us about the A'/A distinction and its theoretical implications? iv) How can we develop a syntactic framework that allows for composite A'/A derivations without becoming purely descriptive?

2.2 Overview

The current chapter is structured as follows: in section 2.3, I discuss the traditional A'/A distinction, why it is a useful syntactic tool and which are the well-known exceptions to it. In section 2.4, I give an overview of the syntax behind phrasal

movement, and discuss positional versus featural implementations of the A'/A distinction. In section 2.5, I investigate languages and configurations for which the classical A'/A distinction makes the wrong predictions, summarizing these empirical exceptions under the umbrella term "composite A'/A derivations". Many of these mixed derivations have been analyzed as involving a composite [A'/A] probe. In section 2.6, I show that researchers might agree on composite [A'/A] probes being a useful syntactic tool – however, there is much variation and disagreement in how such probes are implemented syntactically, often rendering the impression of a seemingly anything-goes syntax. I discuss and compare existing accounts, examining what they suggest in terms of the featural make-up of the [A'/A] probe, which heads in the functional spine it occurs on, how it enters the derivation, whether it is sensitive to defective intervention or not and what exact configurations it aims to describe. I show that there are tendencies across accounts, and that composite probes roughly fall into two groups; such which aim to describe properly mixed A'/A derivations and such which are used primarily for extraction restrictions. In section 2.7, I argue that only a featural approach to the A'/A distinction allows us to account for the cross-linguistic instances of composite A'/A derivations whereas positional accounts are not able to make predictions that are fine-grained enough. In this same section, I lay out the gap this thesis aims to fill: a systematic, comparative investigation of composite A'/A configurations, a unified syntax for composite [A'φ] probes and a thorough understanding of what composite A'/A configurations may tell us about the A'/A distinction as a possible language universal.

2.3 The A'/A distinction

The A'/A distinction has a long-standing tradition in syntactic research (among many others Postal, 1971; Chomsky, 1976; 1981; 1995; Déprez, 1989; Webelhuth, 1989; Mahajan, 1990; Müller, 1995; Williams, 2002; Miyagawa, 2010; Obata, 2010; Obata and Epstein, 2011; van Urk, 2015; Keine, 2016; 2018; Safir, 2019) and divides phrasal movement into two kinds; A-movement and A'-movement, being associated with a cluster of opposed properties. A-movement is commonly restricted to argumental nominals/φgoals, and cannot cross intervening φ-elements nor CP boundaries, obviates weak crossover, does not have to reconstruct into its base-position (for binding principles A and C), can create new antecedents for anaphor binding, and does not license parasitic gaps. Opposed to that, A'-movement (wh-extraction, focalization, topicalization, relativization) is not restricted to noun phrases or φ-goals, can cross intervening φ-goals and CP boundaries, induces weak crossover effects, does not create new antecedents for anaphor binding, licenses parasitic gaps, and must (usually) reconstruct into its base-position (for binding principles C). In this table, reconstruction effects are indicated as "no" and "mostly yes" whilst in the subsequent tables, they are replaced by – and + (for the sake of simplicity). Note that later in this chapter, I will add to the A'/A distinction the interaction with case-assignment and φ-agreement, information-structural and clause-typing effects as well as the (in)ability to feed subsequent A-movement.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	no	mostly yes

TABLE 2.3: A'- vs. A-movement; adapted from Safir, 2019 & Richards, 2014

The A'/A distinction is commonly used as a syntactic diagnostic to classify phrasal movement and, to most extent, is taken to be a language universal, thus a core part of generative grammar. In the following, I will present examples for the properties listed in table 2.3. This is done in a primarily descriptive fashion, although I already sketch some of the syntactic reasoning behind the distinction. The full syntactic analyses are presented in chapters 4 and 5; the outlines in this chapter mainly serve a basic illustration of the underlying syntactic operations. To illustrate A-movement, I use English passives or raising to subject, as shown in (2). To illustrate A'-movement, I employ English wh-movement or topicalization, depicted in (3).

(2) *A-movement*

- a. **The cookie** was eaten (by David). *Passivization*
b. **David** seems to have eaten the cookie. *Raising to subject*

(3) *A'-movement*

- a. **What** did David eat? *Wh-movement*
b. **The cookie**, David ate. *Topicalization*

2.3.1 The "classical" A'/A distinction

Restriction to noun phrases/ ϕ -elements A-movement is restricted to ϕ -elements: these are usually noun phrases, although whole CPs (Halpert, 2012; 2016; van Urk and Richards, 2015) and TPs (Pesetsky, 2001; 2007 have also been argued to constitute ϕ -goals). Phrases which do not bear [ϕ] or in which [ϕ] is not directly accessible (for example prepositional phrases in (4a)) are prohibited from undergoing A-movement. A'-movement, on the other hand, is not restricted to ϕ -phrases; it can attract any kind of phrase, e.g. a PP in (4b).

(4) *Restriction to noun phrases* (Richards, 2014: 168)

- a. ***To John** was said *t* that it is raining.
b. **To whom** did you say *t* that it is raining?

The correlation between A-movement and noun phrases is associated with case and/or ϕ -agreement being involved in A-movement. Both require a goal with a ϕ -layer, thus A-movement is restricted to ϕ -phrases; such are usual noun phrases. A'-movement, on the other hand, is assumed not be correlated with case or ϕ , thus does not select its goal by ϕ -features. The details are discussed later in this chapter, in section 2.4.

Restricted by CP boundaries A-movement cannot cross a finite clause boundary (CP), as shown in (5a). A'-movement, on the other hand, may cross one or multiple CP boundaries, (5b), referred to as long-distance movement.

- (5) *Restriction by CP boundary* (Chen, 2023: 16-17)
- a. ***Those people** were said that John likes *t*.
 - b. **Who** did you say *t* that John thinks *t* that Mary likes *t*?

Long-distance A'-movement is assumed to happen successive-cyclically via all intervening CPs, that is with intermediate steps at every clause boundary (SpecCP) Chomsky, 2001 *et seq.* (and, as I will assume in this thesis, at all SpecVoicePs). There are various theoretical accounts on locality restrictions of movement, most of which this thesis does not offer enough space to discuss.

The camp of approaches I will (roughly) pursue in this thesis derive the CP restriction of A-movement via a combination of the the *Phase Impenetrability Condition* (PIC) (Chomsky, 2001), the *Ban on Improper Movement* (BIM) (Chomsky, 1973; May, 1979; Williams, 2002) and variety of embedded clause size (Wurmbrand, 2001 *et seq.*). PIC states that movement can only leave a phase through its left-edge, that is the specifier of a phase head. CP depicts a phase and (as commonly assumed) A-movement targets a position lower than CP, namely TP. Thus, an A-moved element is unable to leave a CP phase without an additional A'-movement step to SpecCP. The BIM restricts that A-movement cannot follow A'-movement; thus an A'-movement step from embedded SpecTP to embedded SpecCP cannot be followed by a subsequent A-movement step within the matrix clause. A-movement can therefore only leave a complement clause if this clause is smaller than a full CP. In English, infinitival clauses are assumed to not involve a CP layer but only come as TPs or VoicePs (*a.o.* Rizzi, 1976; 1978; Wurmbrand, 2001; 2004; 2014; Müller, 2000; Pesetsky, 2019). A more thorough discussion of CP restrictions can be found in chapter 4 (sections 4.5 and 4.9).

Weak crossover effects (WCO) Weak crossover effects (WCO) have been in the center of syntactic attention since Postal's 1971 seminal work (for a recent overview see Safir, 2017). Weak crossover measures whether movement can establish a new domain for variable binding. The common observation is that A'-movement induces WCO, whilst A-movement does not. WCO tests are based on bound variable readings: if a variable (e.g. a possessive pronoun like *his student*) is preceded by a quantifier phrase (e.g. *every professor*), in a sentence like *Every professor likes his student* there are two available readings for the variable: a bound reading, where for each professor, there is one student and a free reading, where there is a single student who is liked by all professors. A bound variable reading only occurs when the variable is in the c-commanded binding domain of the quantifier.

- (6) Every professor_{*i*} likes his_{*i/j*} student.
- a. **Bound:** For every professor *x*, there is a student that *x* likes.
 - b. **Free:** For a single student *y*, every professor likes *y*.

A-movement can change these binding relations whereas A'-movement preserves them. To test WCO, we need an example in which a quantifier phrase (like *every professor*) is base-generated below a variable that can but need not be bound, such as *his students*. In the base-line order, co-indexation between the two phrases is ungrammatical, as the variable is not in the c-commanded binding domain of the

quantificational phrase and thus cannot be interpreted as bound pronoun. Thereby, the pronoun *his* in the base example in (7) can only be interpreted freely, that is as referring to one single student.

- (7) His_{*i/j} student thinks **every professor_i** is smart.

If now the quantifier phrase moves across the variable, the co-indexation situation can change, depending on the quality of movement. If the quantifier A'-moves, it can bind the variable from its landing site, making available a bound variable interpretation in which there are multiple students, one for each professor. If such a bound reading becomes possible in the derived ordering, then movement *obviates* WCO - a property ascribed to A-movement, as shown in (8).

- (8) **Every professor_i** seems to his_i student *t* to be smart.

If the quantifier A'-moves, on the other hand, it cannot render a bound variable reading, even though the quantifier c-commands the variable from its landing-site. A'-movement therefore *induces* WCO, that is it retains the interpretation and binding-properties of the base-line order, see (9).¹

- (9) ***Which professor_i** does his_i student think *t* is smart?

There are various syntactic explanations as for why WCO effects obtain in A'-movement but not in A-movement. The one I pursue in this thesis is based on the kind of abstraction movement induces. As per Sauerland, 1998; 2004; Ruys, 2000; van Urk, 2015; Bhatt and Keine, 2019, A'-movement abstracts over choice functions whereas A-movement abstracts over individuals. A choice function is of the wrong type to establish a binding relation, thus co-indexation between the quantifier and the variable does not become possible under A'-movement. Abstraction over individuals, as induced by A-movement, allows for the quantifier to bind the variable in its newly established c-command domain, rendering a bound reading grammatical. The semantic differences between movement chains and their relation to weak crossover are treated in more detail in chapter 5, section 5.3.

Creation of new antecedents for anaphor binding A-movement creates new antecedents for anaphor binding, A'-movement does not. This property is based on binding principle A; an anaphor must be bound in its local domain. In order to test this property, we need a base-line example in which an anaphor precedes its possible antecedent, as in (10). This sentence, in its base-ordering, is ungrammatical under binding principle A.

¹Note that example (9) shows WCO with a wh-phrase whilst in the rest of this thesis, many examples involve topicalization. There is a debate in literature as to whether topicalization reliably induces WCO effects or might ameliorate them (referred to as *Weakest Crossover* in Lasnik and Stowell, 1991), shown in (i).

- (i) **This book_i**, I expect its_i author to buy *t*. (Lasnik and Stowell, 1991: 691)

Notably, the instances in which topicalization obviates WCO involve definite descriptions (*this book*) or proper names. van Urk, 2015 (following Postal, 1993; Ruys, 2004) points out that as soon as topicalization involves a quantifier phrase, it exhibits weak crossover just like wh-movement does, shown in (ii).

- (ii) ***Every other girl_i**, Alex claims her_i mother likes *t*. (van Urk, 2015: 44)

- (10) *Each other's sisters trusted **the girls**. (adapted from Safir, 2019: 287)

If now *the girls* is A-moved across the anaphor (*each other's sisters*), it can bind the anaphor from its landing site and render the sentence grammatical, as in (11). Hence, A-movement can create a new antecedent for anaphor binding.

- (11) **The girls** seem to each other's sisters *t* to be trustworthy.
(adap. from Safir, 2019: 287)

An A'-moved element, on the other hand, cannot create new antecedents for binding. That means, if we A'-move the antecedent (*the girls*) across the anaphor, it does not render grammaticality. Even though the A'-moved antecedent c-commands the anaphor on the surface, it cannot bind it from its landing site, see (12).

- (12) ***Which girls** did each other's sisters trust *t*? (Safir, 2019: 287)

van Urk, 2015 accounts for the creation of new antecedents for anaphor binding via the same mechanism as he does for WCO: A-movement abstracts over individuals, thereby can bind a variable (the reflexive) from its landing-site. A'-movement, on the other hand, abstracts over choice functions, thereby is of the wrong type to bind a variable, even if it c-commands it. One caveat of creating new antecedents for anaphor binding is the fact that reflexives in many languages resist to occur in the thematic agent position (Chomsky, 1986; Hornstein, 2001; Reuland, 2001; 2011; McGinnis, 2004; Rooryck and Vanden Wyngaerd, 2011; Charnavel and Sportiche, 2016; Brodtkin and Royer, 2024). Thus, if we see an instance where apparent A-movement is unable to bind an anaphor it crossed, this is not necessarily an argument against the movement chain beim A-movement, but might also relate to an independent prohibition of a reflexive pronoun in the agent position.

Reconstruction effects Another property ascribed to the A'/A distinction are reconstruction effects, that is whether a moved phrase can be interpreted in its (higher) landing-site or has to be reconstructed into its (lower) base-position. The common assumption is that A'-movement obligatorily reconstructs, whereas A-movement is not required to do so (cit. from Richards, 2014: 168; see *a.o.* Van Riemsdijk and Williams, 1981; Freidin, 1986; Lebeaux, 1988; 1998; Cinque, 1990; Chomsky, 1995; Heycock, 1995; Hornstein, 1995; Fox, 1998; Sharvit, 1998; Takahashi, 2006; Takahashi and Hulse, 2009; Poole, 2017; Safir, 2019; Poole and Keine, 2024; Keine and Bhatt, 2023; see Sportiche, 2006 for an extensive overview). Reconstruction can be tested with binding principles or scope. I will briefly discuss scope effects in the end of this section, however, the rest of the thesis will primarily include reconstruction for binding (principle C), as scope reconstruction is subject to more complex variation (see *a.o.* May, 1977; 1985; Cinque, 1990; Chomsky, 1995; Hornstein, 1995; Romero, 1997; Lechner, 1998; 2013; 2019; Sauerland, 1998; 2004).

A-movement can but does not need to reconstruct into its base-position for interpretation (cit. from Richards, 2014), whereas A'-movement (in most cases) must obligatorily reconstruct (cit. from Safir, 2019). This means if an element is bound in its base-position, A'-movement will retain this property whereas the A-movement is able to establish a new binding configuration. The same is true vice versa; if an element cannot be bound in its base-position, movement that reconstructs (A') will not fix the underlying binding violation, whereas a lack of reconstruction (A-movement) does. Reconstruction based on binding principles falls into two types, depending on the kind of moved phrase: i) reconstruction for principle C, also termed condition

C connectivity and ii) reconstruction for principle A. I will show that it is mainly reconstruction for principle C that can be used to tease apart A- from A'-movement whilst reconstruction for principle A comes with too many caveats to be properly used as (cross-linguistic) diagnostic for movement chainr.

In **reconstruction for principle C**, the moved element contains an R-expression (in (13) that is *every argument that John is a genius*) which, in its base-position, is c-commanded by a pronoun (in in (13), *he*). Given binding principle C, namely that an R-expression must be free in its binding domain, co-indexation between *him* and *John* is ungrammatical in the base order.

- (13) He_{*i/j} thinks that [every argument that **John**_i is a genius] is flawless.
(adapted from Richards, 2014: 168)

If the phrase containing the R-expression is moved, this can change the co-indexation possibilities: A-movement does not obligatorily reconstruct, that means the moved phrase can be LF-interpreted in its landing-site. Thus, co-indexation between *him* and *John* becomes grammatical, since the R-expression (*John*) is no longer within the binding domain of the pronoun *him*, shown in (14).

- (14) [Every argument that **John**_i is a genius] seems to him_i *t* to be flawless.
(Richards, 2014: 168)

A'-movement, on the other hand, obligatorily reconstructs into its base-position (below the pronoun) for interpretation. Thus, even after movement of the R-expression, co-indexation between *John* and the pronoun *him* remains ungrammatical, shown in (15).

- (15) *[Which argument that **John**_i is a genius] did he_i believe *t*?
(Richards, 2014: 168)

Reconstruction effects can, in theory, also be tested with **principle A**, where an anaphor moves from its bound base-position across its antecedent. This means, we take a baseline examples like (16a) and modify it either via A'- or A-movement, as in (16b) and (16c).

- (16) a. She admires **herself**.
b. **Herself**, she admires.
c. ***Herself** was admired by her.

There are some relevant caveats to reconstruction of anaphors that should be pointed out and that, after all, make principle A reconstruction a weak testing ground. First, reconstruction for principle A does not pattern as strictly with A- versus A'- movement as reconstruction for principle C does: Belletti and Rizzi, 1988 and Pesetsky, 2013 summarize this as "somewhere" requirement; as long as a moved anaphor can be locally bound in one of its positions (the base- or derived one), the derivation will succeed. Thereby, the sole presence of reconstruction effects do not yet indicate whether an element has been A- or A'-moved. On the other hand, the absence of principle A reconstruction is often overshadowed by independent restrictions on anaphora. In the example (16c), it appears as if the the reflexive *herself* has A-moved and cannot reconstruct into its bound position, therefore the outcome is ungrammatical. It is, however, not clear whether the ungrammaticality of ?? really stems from an inability to reconstruct. It could just as well stem from an independent restriction

on the reflexive pronoun: many languages prohibit anaphora to occur in subject position, irrespective of A'- or A-movement (see Forker, 2014). Thereby, reconstruction for principle A is not a good testing ground to disentangle A- from A'-movement and for this reasons I will set it aside for most parts of this thesis.

Last, reconstruction is also observable from changes in **scope** and is particularly interesting in terms of A-movement. In order to test scope reconstruction, we need an base-line example that contains a quantifier phrase, such as *someone from California* and a predicate or another DP the quantifier is c-commanded by; in (17) that is *be likely*.

- (17) It is likely that [**someone from California**] wins the lottery. (adapted from Poole and Keine, 2024: 1)

If the quantifier is A-moved, as in (18), it can take scope in its landing site (surface scope, (18a)) or in its base-position (reconstructed scope, (18b)).

- (18) [**Someone from California**] is likely *t* to win the lottery.
- a. *Surface scope*: There is a (particular) person from California who is likely to win the lottery
 - b. *Reconstructed scope*: It is likely that there is a person from California who will win the lottery.

(Poole and Keine, 2024: 1)

There are multiple syntactic explanations for why reconstruction effects occur. Of the three phenomena presented above (reconstruction for principle C, principle A and scope), particularly the first one, reconstruction for principle C, is used as the most standard syntactic reconstruction test. Condition C is taken to be evaluated at LF and most reconstruction analyses are based on LF interpretability (Lebeaux, 1988; 1998; 1998; Heycock, 1995; Chomsky, 1995; Romero, 1997; Sharvit, 1998; Fox, 1998; Lechner, 2013). The assumption these analyses are based on is that an A'-moved element has a different LF interpretation than an A-moved element. One (out of several) ways to account for this contrast is the hypothesis that the trace of A-movement is (or can be) an impoverished version of the moved element whereas A'-movement leaves behind a full representation (Sauerland, 1998; Fox, 1998; Bhatt and Pancheva, 2004; Sportiche, 2005; Takahashi, 2006; Takahashi and Hulsey, 2009; Stanton, 2016; Safir, 2019; Thoms, 2019; Thoms and Heycock, 2022; Keine and Bhatt, 2023). Accounts based on impoverished traces often build on *late merge* as theoretical tool. Late merge suggests that A-movement allows the launching site of movement to only contain a reduced phrase; in Thoms and Heycock, 2022 that is an NP, while the DP part is merged later at the final landing site. In Takahashi and Hulsey, 2009, only D is merged in the base-position, whereas the NP part is inserted later under case assignment. Whatever implementation of late merge one pursues, the basic mechanism is the same: the launching site contains a reduced phrase, the missing part of which is only inserted after A-movement happened. Late merge allows for a DP to be interpreted in a higher position than its thematic one; simply because it is not (fully) present in the lower position, thus not interpretable for LF there. A'-movement, on the other hand, does not permit the option of late merged material; everything that is A'-moved has to be a full phrase already. The reasoning behind this is often based on case assignment (Bobaljik and Wurmbrand, 2005; Takahashi and Hulsey, 2009; van Urk, 2015): late merge can only happen in a case-assigning position. Since only A-movement is related to or feeds case assignment (see a discussion of case and A-movement later in chapter 3), only A-movement allows late

merge; thus the option for a phrase to be interpreted in its landing site for binding, rendering a lack of reconstruction. A'-movement, on the other hand, is assumed to happen after case-assignment (Abels, 2007), thus does not allow late merge of DP material. Thereby, an A'-moved phrase is always interpreted in its base-position at LF, that is, it shows reconstruction effects.²

Parasitic gap (PG) licensing Parasitic gaps are empty slots in the structure that look like traces/silent copies, but are not: they are located in adjuncts (in (19); *in order to impress*), thus if they were true traces of movement, this movement would have violated an adjunct island.

(19) **John**, I talked to *t* [in order to impress __ (PG)] (Nissenbaum, 2000: 3)

Parasitic gaps are "parasitic" in a way that they always attach to a "real" trace. In (19), *John* has been topicalized out of the matrix VP (*talk to*). The parasitic gap in the adjunct (*in order to impress*) is only licensed by the preceding trace; the derivation becomes ungrammatical if there is no true trace a parasitic one could attach to, as in (20).

(20) *I talked to **John** [in order to impress __ (PG)]

Only A'-movement can license parasitic gaps, (21a), whereas A-movement cannot, (21b).

(21) *Parasitic gap licensing* (Richards, 2014: 168)

- a. **Who** did you hire *t* [without talking to __ (PG)]?
- b. ***John** was hired [*t* without talking to __ (PG)].

The syntactic analysis I pursue for PG licensing is discussed in more detail chapter 5, section 5.3. To give a short outline, the account is based on Nissenbaum, 2000 and van Urk, 2015 and on successive-cyclic movement through *v*P. A'-movement proceeds through the edge of *v*P and creates a predicate out of *v*P. A parasitic gap is derived via operator (A'-)movement within an adjunct clause which renders the adjunct clause semantically predicative. Only predicates of the same type can be conjoined. Since both a *v*P with an A'-trace as well as an adjunct with an operator-induced gap are predicative, they can be conjoined, allowing the operator to be interpreted as parasitic gap. In Nissenbaum's original account, A-movement does not proceed successive-cyclically through Spec*v*P, thus does not create a predicate out of it. In van Urk, 2015, even A-movement moves through Spec*v*P but, since it is semantically distinct from A'-movement, does not create a predicate of the right kind out of *v*P. Thereby, *v*P containing an A-trace is of a different semantic type than an adjunct clause with an operator trace (i.e. parasitic gap), hence the two cannot be conjoined, rendering the ungrammaticality of (21b).

Interim summary Putting aside the short syntactic excursus I presented already, the A'/A distinction is in many respects of descriptive nature: the two movement types can be disentangled by a consistent clustering of properties, repeated in table 2.4.

²Note that often, late merge is taken to be an optional scenario, alternating with DP insertion at the launching site (van Urk, 2015), rendering the widely used formulation "A-movement does not obligatorily reconstruct".

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	no	mostly yes

TABLE 2.4: A' - vs. A-movement

The distinction alone, independent of its syntactic reasoning, serves as a useful tool when investigating movement chains, both in languages we already know as well as in newly studied ones. The strong correlation and clustering of A' - versus A-properties in many languages gives reason to believe that the A'/A movement distinction, at least to some degree, might be tied to a language-universal split in movement operations into two types. The underlying reasons for this split might be of different (syntactic or non-syntactic) nature (Safir, 2019) and possibly, only some of them are directly correlated. This thesis aims to investigate which A'/A properties root in the same syntactic mechanism, which only coincide in most (but not all) languages and, as a result, which parts of the A'/A distinction are potentially truly universal and which might be English-specific. In chapters 4 and 5, I argue that, with some minor refinements, a split of movement into type A and A' might be upheld, even in languages and/or configurations obscuring the A'/A distinction at first sight.

The syntactic causes for the clustering of A' vs. A properties, that is the reasons for a movement chain to be either of type A or A', is and always has been a widely discussed question among syntacticians. Some fragmental hypotheses have already been introduced above; the details of the exact syntactic analyses and how they might account for the quality of movement are repeated in more detail in chapters 4 and 5. Before proceeding to the question of what causes movement in the first place and what explanatory approaches there exist to the A'/A distinction, we will take a short detour to some of its best-known exceptions; showing that even in the languages like English, that is the ones we have studied most carefully, there are constructions for which the A'/A distinction does not make the right predictions.

2.3.2 The well-known exceptions

Although the A'/A distinction as outlined in table 2.4 is based on English (and related languages), even in these languages we can find constructions that do not fall neatly in the A'/A classification, but show mixed properties. In this section, I briefly discuss three of these well-studied exceptions and how they might be accommodated in the A'/A distinction after all: English *locative inversion* and *tough movement*, as well as German *scrambling* and Scandinavian *object shift*. Later on in this chapter, in section 2.5, I show that apart from the Germanic languages, there are much more instances of mixed A'/A constructions, that is movement chains whose properties do not pattern clearly with either A' - nor A-movement. Even though the well-known exceptions discussed in the current section have been fit into syntactic analyses that manage to obtain the A'/A distinction, the cases discussed in 2.5 might require us to rethink the universal applicability of a binary split between A' - and A-movement; this reconsideration will be the overarching topic of this thesis.

Locative inversion Even in languages like English, there are (construction-specific) exceptions to the A'/A distinction: there is for example *locative inversion*. Locative inversion behaves like A-movement, with the sole exception that it is not a noun phrase, but a prepositional phrase that is moved, (22).

- (22) *English locative inversion* (Bresnan, 1994: 75)
- a. **Back to the village** came the tax collector.
 - b. **Among the guests** was sitting my friend Rose.
 - c. **In the corner** was a lamp.

This is unexpected given the claim that A-movement is supposed to be restricted to noun phrases. But even if we look at the instances of A-movement we saw so far (passivization, raising to subject), we see that locatives are able to circumvent this restriction:

- (23) **Under the bed** seems *t* to be a good place to hide.

One way to deal with **locative inversion** (whilst obtaining the property of A-movement to be restricted to nominals/ ϕ -goals) is the insertion of a null expletive in the subject position of the clause, SpecTP (Lawler, 1977; Postal, 1977; Collins and Branigan, 1997; 2004; Bruening, 2010). In such accounts, the PP is adjoined to TP whereas the actual SpecTP position is filled by a null *there*. If such a direction is taken, it is then possible to make the expletive responsible for the subject-like/ A-movement appearance of the locative.

Tough-movement A more complex case of mixed A'/A properties is found in a construction that is referred to as **tough-movement**, shown in (24).

- (24) **Linguists** are tough to please *t*. (Hicks, 2017: 1)

(82) resembles a raising construction like *Linguists seem to be difficult people* but, when looked at closely, exhibits a different A'/A profile. **Tough**-constructions behave like A'-movement in that they license parasitic gaps and can cross intervening noun phrases. At the same time, they behave like A-configurations in that they create new antecedents for anaphor binding, do not induce weak crossover and do not reconstruct for principle C (see Longenbaugh, 2017 and Hicks, 2017 for recent overviews).

- (25) *A'-properties of tough-movement*
- a. **These books** were tough [for critics of __ (PG)] [to praise *t* sincerely].
Parasitic gap licensing (Hukari and Levine, 1990: 142)
 - b. **This book** was easy [to convince Bob [to read *t*]]
Can cross noun phrases (Longenbaugh, 2017: 11)
- (26) *A-properties of tough-movement*
- a. **John and Mary** were hard for each other's friends to get along with *t*.
Creates new antecedents for anaphor binding (Longenbaugh, 2017: 18, taken from Ruys, 2000)
 - b. **No employee_i** will be easy for us to get his_i boss to fire *t*.
Obviates weak crossover (Longenbaugh, 2017: 18)
 - c. **John_i's mother** is tough for him_i to endure *t*.
No reconstruction for principle C (Mulder and Den Dikken, 1992: 309)

Tough-constructions posit a puzzle for the classical A'/A distinction and there are two ways of how to treat them; either allow for movement chains that are neither purely A' nor A (see for example Longenbaugh, 2017), or find an alternative analysis that consists of multiple movement chains or high base-generation. The standard account for *tough*-constructions is a high base-generation one; the subject (*linguists*) is merged as a subject of the *tough* predicate and co-indexed with an A'-moved null operator in embedded clause (Chomsky, 1977; 1981; Browning, 1987; Heycock, 1991; Rezac, 2006; Keine and Poole, 2017). Under a high-base-generation analysis, *tough*-constructions do not posit an exception to the A'/A movement distinction, since the subject (*linguists*) only moves within the matrix clause (or not at all). A base-generation account brings the advantage of not having to give up the A'/A distinction but comes with the disadvantage of having to postulate operator movement and co-indexation; an operation for which there is no empirical basis aside from the theoretical implication "mixed A'/A movement" would make for general syntactic theory. Even though I will eventually adopt a base-generation analysis of *tough*-constructions, I discuss an A'/A movement approach (Longenbaugh, 2017) in chapter 8.

German scrambling and Scandinavian object shift More mismatches to the A'/A distinction can be found around information-structural effects: A'-movement is usually associated with information-structural effects like question formation, focalization or topicalization (see the remainder of this section details). This means, the source for A'-movement roots in the formation of a question, or the highlighting or relativization of a certain part of the clause. Vice versa, the interpretation of an element as topic, focus, wh-element or relative clause is usually taken as an indication that this element has A'-moved (given the fact that it occurs outside of its base-position).

German A-scrambling and Scandinavian object shift, however, behave like A-movement in all respects but trigger information-structural effects. There is, for instance, a definiteness requirement on scrambled or shifted objects, excluding indefinite pronouns from scrambling/ shifting.

(27) *German A-scrambling*

- a. *Peter las **die Bücher** ohne Zweifel nie t.*
 Peter read **the books** without doubt never *t*
 'Peter, undoubtedly, never read these books.' (Vikner, 2005: 393)
- b. **Peter las **irgendwelche Bücher** ohne Zweifel nie t.*
 Peter read **any books** without doubt never *t*
 'Peter, undoubtedly, never read any books.'
- c. **Ich habe immer einen Regenschirm, warum hast du **einen** nie t?*
 I have always an umbrella why have you **one** never *t*
 'I always have an umbrella with me, why do you not?'
 (Diesing, 1996: 76)

(28) *Icelandic object shift*

- a. *Pétur las **bækurnar** eflaust aldrei t.*
 Peter read **books-the** doubtlessly never *t*
 'Peter, undoubtedly, never read these books.' (Vikner, 2005: 393)
- b. **Ég á ekki regnhlíf, áttu **eina** ekki t?*
 I have not umbrella have-you one not *t*

'I always have an umbrella with me, why do you not?'

(Vikner, 2005: 424)

For both configurations, the definiteness restriction has been explained by the object escaping existential closure via shifting out of VP. The shifted/scrambled DP leaves the nuclear scope of VP, thereby obtains wide scope and needs to receive a definite, referential interpretation (Diesing and Jelinek, 1995). The movement chain itself is A-movement. As already noted above, information-structural effects and how they exactly interact with agreement and A-movement chains is subject to ongoing discussion (see Miyagawa, 2010; Mursell, 2021; Van der Wal, 2022; Bárány, 2023, *a.o.*). For the moment being, I assume that information-structural effects can on the one hand serve as a trigger for A'-movement (e.g. via a [foc] probe) but on the other hand result as a side-effect from independent movement operations (e.g. because a DP escapes existential closure).

These were the most "common" mismatches of the A'/A distinction. All of them have been squeezed into analyses that allow us to preserve the A'/A split (e.g. via high base-generation, adjunction, existential closure). In the subsequent section 2.5, I show that there are many more constructions in natural language displaying mixed A'/A properties, that is single movement derivations that exhibit both A'- and A-properties. Before proceeding to these empirical examples of mixed A'/A configurations, I will examine the triggers for movement and how syntactic approaches try to account for the A'/A distinction. The following section 2.4 discusses the triggers of movement in a minimalist framework and whether the A'/A distinction is better ascribed to positions in the clausal spine or to the quality of the movement-inducing features.

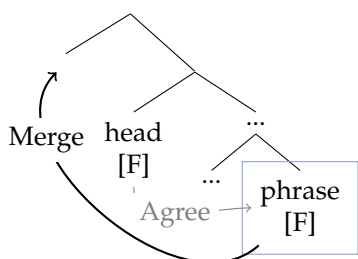
2.4 The syntax behind the A'/A distinction

In order to explain where the A'/A distinction stems from, a common theoretical direction is to locate the difference in the triggers for movement. This section discusses common approaches on the triggering forces behind (A'- and A-) movement, and what syntactic properties they relate to—for example case-assignment, ϕ -agreement or information-structural effects.

One of the major claims of minimalist syntax (Chomsky, 1995) is that all movement is Merge, accompanied by a process of feature valuation (Agree) (among many others Torrego, 1984; Chung and McCloskey, 1987; Kinyalolo, 1991; Collins, 1993; Chomsky, 1995; Henry, 1995; Schneider-Zioga, 1995; Pesetsky, 2001; 2007; McCloskey, 2002; Miyagawa, 2010; Torrence, 2012; Watanabe, 2012; Georgi, 2014). Phrasal movement is the output of the recursively applying operations Merge and Agree—an assumption I adopt in this thesis.

- (29) A head is merged with a movement triggering feature [F] (= probe)
- a. 1. **Agree:** The probing head finds the closest phrase equipped with the same feature [F] (= goal).
 - b. 2. **Merge:** The probe attracts the phrase it agreed with to its specifier.

(30)



In this section, I give a short overview over common approaches to A'- and A-movement and what exact features they involve. After that, I discuss the more crucial question: if both A'- and A-movement are the output of the same operation (Merge and Agree), why do they exhibit opposed properties, that is, where does the A'/A distinction root in? I will show that there are two possible answers to this question:

- (31) a. **Structural-positional reasoning:** A'- and A-movement have different landing sites in the clausal spine. Their distinct heights (and/or association with argument-structural properties) derive the A'/A distinction (Chomsky, 1981; Webelhuth, 1989; Mahajan, 1990; Williams, 2002; Müller, 1995; Keine, 2016; 2018; Poole, 2023).
- b. **Featural reasoning:** A'- and A-movement are triggered by different feature classes: [A'] features like [wh], [rel], [foc], [top] versus [A] features like [ϕ], or [D]. The properties of the movement chain are contingent on the feature class (Chomsky, 2008; Takahashi and Hulse, 2009; Obata, 2010; Obata and Epstein, 2011; van Urk, 2015).

The difference between a positional and a featural reasoning behind the A'/A distinction is, in many respects, primarily a theoretical question. For languages like English, the two do not straightforwardly generate different predictions. We will, however, see that languages other than English serve as a better testing ground to distinguish a positional from a featural approach; that is such languages which exhibit "mixed" A'/A movement chains. One of the overall goals of this thesis is to provide an argument for a featural implementation of the A'/A distinction, along the lines of van Urk, 2015. The section is structured as follows: in subsection 2.4.1, I give an overview over A'-movement and its triggers, followed by a discussion of A-movement in subsection 2.4.2. Subsection 2.4.3 contrasts a positional implementation of the A'/A distinction with a featural one. Eventually, in subsection 2.4.5, I argue that a featural understanding of movement makes the better predictions regarding the empirical patterns we find cross-linguistically, which are laid out in the subsequent section 2.5 and serve as the basis of discussion for the subsequent chapters.

2.4.1 A'-movement: a short overview

A'-movement is standardly defined as movement to a non-argument position, correlating with information-structural or clause-typing alternations, such as question-formation, topicalization, focalization or relativization.

(32) David ate three cookies.

Base-line

a. What did David eat <i>t</i> ?	<i>Wh-movement</i>
b. The cookies that David ate <i>t</i> .	<i>Relativization</i>
c. The cookies , David ate <i>t</i> .	<i>Topicalization</i>
d. The COOKIES , David ate <i>t</i> .	<i>Focalization</i>

The definition "non-argument" position stems from a syntactic era before the *VP internal subject hypothesis* (Speas, 1986, Koopman and Sportiche, 1991), where the subject was base-generated in InflP/TP (and only the object inside VP). Thus SpecTP served as a thematic position and all movement away from TP and VP thereby counted as movement to a non-argument position; that is A'-movement. The VP internal subject hypothesis, arguing that subjects are base-generated inside VP/*v*P and move up to SpecTP complicated this generalization. If the subject moves to SpecTP, it moves away from its argument position, to a non-thematic/ non-argument position (SpecTP), whilst this movement still counts as A-movement. Thus, the scope of the term "argument position" widened (at least in terms of movement) and nowadays usually refers to all positions that are thematic plus SpecTP. All other positions are described as "non-argument positions", that is landing-sites for A'-movement. Non-argument positions are found in the higher clausal periphery, that is CP. Although there most certainly also exist lower landing-sites for A'-movement (such as a low Focus or Topic projection below TP; see for example Belletti et al., 2001; 2004), there is common agreement on an association between A'-movement and the clausal (left) periphery in most accounts and languages. This periphery, that is CP, might be split into a multitude of projections (as is assumed in cartographic accounts, starting with Rizzi, 1997; 2004). In *split CP* approaches, there are multiple landing sites within the left periphery, all of which are tailor-made for one specific kind of A'-movement; wh-movement, for example, would land in a different CP projection than topicalization or yet again focalization does, each having their dedicated projection WhP, TopP and FocP, respectively. However, even in split CP approaches, the basic assumption remains the same: A'-movement leaves the core argument and inflectional domains and aims for a higher, functionally different position in the clause. Further, this movement is usually accompanied by information-structural or clause-typing alternations; movement into a high position correlates, is the reason for or is caused by topicalization, focalization, question-formation or relativization of a given phrase. Another widely accepted property of A'-movement is that it happens cyclically, that is that it makes intermediate stops before it reaches its final destination. In one wide-spread definition of cyclicity (the one assumed in this thesis), the phase-edges SpecCP and Spec $\bar{v}$ P serve as intermediate stops for A'-movement (Chomsky, 1973; 1977; 2001; 2008; Müller, 1995; Heck and Müller, 2000; McCloskey, 2002 *et seq*; though see other accounts to phasehood and cyclic movement in chapter 3).

So far we saw that A'-movement i) targets positions that are non-thematic and not SpecTP, ii) correlates with or is triggered by information-structural or clause-typing effects and iii) happens in a successive-cyclic fashion. A more theoretical question is, why do elements move to higher, A'-related projections in the first place? Is this movement caused by the functional spine (i.e. a position/specifier that needs to be filled, a head that needs to agree with something) or by a certain need of the moved element itself (i.e. the need of a wh-phrase to be interpreted in a position higher than its basic one)?

What triggers movement? In a merge-based system there are two possible syntactic answers to the question of why phrases A'-move. On one side, there are accounts arguing that the movement triggering force lies in the moved phrase itself (Bošković,

2007). A phrase can be merged with a certain information (e.g. an unvalued [wh]-feature) and needs to move higher up in the clause to have this information valued and/or interpreted. In these accounts, the moved phrase itself triggers movement, whereas the functional spine, that is the heads related to the left periphery, only serve as valuing force, not as movement triggers. In other accounts, the mechanism is wired vice versa; the movement triggering force is high in the clause, within the probing head, formulated as an unvalued feature (Chomsky, 1981; 1995; Mahajan, 1990; Déprez, 1989; Miyagawa, 2010; Abels, 2012a; Georgi, 2014 and others). What induces movement is the agreement relation between the probing head and a lower, featurally fitting phrase.

I will pursue an account where A'-movement is triggered by a high head and not the moving phrase itself; more specifically, a functional head agrees with lower phrase (in terms of a probe-goal agreement relationship) and thereby triggers movement of the phrase to its specifier (Chomsky, 1995; Chomsky, 2001). I assume that this is the case for all kinds of A'-movement, that is wh-movement, relativization, topicalization and focalization (along the lines of Aboh, 2010; Miyagawa, 2010; Abels, 2012b; van Urk, 2015; Mursell, 2021; Van der Wal, 2022). In all four, a c-commanding head carries a movement-inducing probe ([wh], [rel], [top], [foc]), which agrees with a goal that carries the fitting features; this goal is then and moves the head's specifier.³ A last property of A'-movement is its semantic correspondence; A'-movement is often described as *abstraction over choice functions* (Sauerland, 1998; Ruys, 2000; Abels and Martí, 2010; van Urk, 2015; Bhatt and Keine, 2019). Hence, in an A'-movement derivation, the A'-moved element is semantically interpreted as a quantifier and the trace it leaves behind as choice function variable. This particularly assumed for wh-movement but occasionally extended to other kinds of A'-movement too (van Urk, 2015; Abels and Martí, 2010). I address the semantic aspect of A'-movement and its relevance for the A'/A distinction again in chapter 5, section 5.3.

To summarize, the common theoretical assumptions about A'-movement are (most of which will be pursued in the remainder of this thesis, some will be refined): A'-movement i) is associated with the clausal periphery and/or non-argument positions, ii) correlates with clause-alternating or information-structural effects, iii) when crossing a CP boundary, happens in a cyclic fashion with an intermediate movement steps at SpecCP, iv) is induced by probe-goal agreement with a head in the functional spine (like all kinds of movement) and v) semantically abstracts over choice functions.

2.4.2 A-movement: a short overview

A-movement has originally been defined as movement to an "argument position", and also is often referred to as "subject" movement, as it goes along with changes in subjecthood (passivization) or is restricted to subjects (raising to subject/object).

(33)	David ate three cookies.	<i>Base-line</i>
	a. The cookies were eaten <i>t</i> (by David).	<i>Passivization</i>

³Note that for topicalization and focalization, this analysis is debated; there are various approaches that ascribe topic and focus alternations to other processes than syntactic probing, arguing that these are not structurally encoded but the result of the mapping between syntax and information structure. (Chomsky, 2001; Neeleman and Szendrői, 2004; den Dikken, 2006; Fanselow, 2006; López, 2009; Büring, 2015). I will not take a position in this debate here, but merely assume that when topic/focus movement takes place in syntax (which may not be necessary to achieve a particular information-structural mapping), it is triggered by a syntactic feature, like other A'-movement operations.

- b. **David** seems *t* to have eaten the cookies. *Raising to subject*
 c. Gunda doesn't want **David** *t* to eat the cookies. *Raising to object*⁴

The term "argument position" refers to positions in which arguments are thematically introduced and, since the VP internal subject hypothesis, also includes SpecTP, even though TP does not thematically introduce an argument per se (see the preceding section 2.4.1). A-movement is more restricted than A'-movement, both in terms of what can move and further in terms of how far it can move. A-movement targets the subject (in raising) or the closest A-element (in passivization), is restricted to noun phrases and cannot occur across a CP boundary.⁵ Further, A-movement is associated with case-assignment and ϕ -agreement, and often defined as "movement for case" or "movement for ϕ -agreement". For a more detailed discussion of the relationship between A-movement, case and agreement assumed in this thesis, see chapter 3.

What triggers movement? Originally, Chomsky, 1981 stated that A-movement is movement to a θ -related and/or subject position. After the VP-internal subject hypothesis, this approach had been refined by assuming that A-movement is connected to case, driven either by the goal's need to be case-licensed, by a ϕ -probe on a functional head in need of a value or by a connection of these two (Borer, 1986; Fukui and Speas, 1986; Bošković, 1997; 2002; 2007; Epstein and Seely, 2006; Boeckx, 2000; Grohmann, Drury, and Castillo, 2000; Levin, 2015). The case-based assumption for English (and related languages) is that A-movement happens when the moved nominal cannot receive case in its base-position (Rosenbaum, 1967; Postal, 1974; Burzio, 1981; Chomsky, 1981; Lasnik and Saito, 1999). For example, in passivization, the verb is intransitivized and thereby loses the ability to assign accusative case to its internal argument (*Burzio's generalization*, Burzio, 1981). The internal argument then moves to SpecTP in order to receive nominative there and be properly licensed. At the same time, T receives ϕ -values from the moved nominal, rendering verbal agreement. A similar thing happens in raising configurations: the non-finite embedded clause cannot assign nominative case to its subject, thereby this subject moves to the higher clause to be case-licensed (either in the matrix subject position, in raising to subject, or in the matrix object position, in raising to object). Not all accounts, however, tie A-movement and case to same source. An alternative analysis is based on the *Extended Projection Principle* (EPP), which requires an element to move to the canonical subject position (SpecTP) (Chomsky, 1981; Zaenen, Maling, and Thráinsson, 1985; Yip, Maling, and Jackendoff, 1987; McCloskey, 1994; McGinnis, 1998; Marantz, 2000; McFadden, 2004; Wurmbrand, 2006; Sigurðsson, 2009). This can either be done by an expletive, as in (34a) or by an A-moved subject, (34b).

- (34) a. **It** seems as if David ate the cookies.
 b. **David** seems to have eaten the cookies.

Further, there are accounts which define the sole trigger for A-movement to root in an unvalued [ϕ]-feature, irrespective of case or EPP requirements (*a.o.* Diercks, 2012; Zeijlstra, 2012; van Urk, 2015; Sheehan and Van der Wal, 2018; Zyman, 2018;

⁴Raising to object is also analyzed as *Exceptional Case Marking* (ECM), that is ACC-assignment into the embedded clause. I do not take a theoretical stance here on whether the embedded subject moves to a matrix object position or solely is assigned case by the matrix verb but stays within the embedded clause.

⁵Note that the whole chapter 6 is dedicated to exceptions of exactly this constraint.

Fong, 2019; Wurmbrand and Haddad, 2016; Fong and Halpert, 2023). In these approaches, a head carries unvalued ϕ -features that need to be valued in order to make the derivation interpretable. This can only be done by attracting a nominal to move to SpecTP and ϕ -agree with it therein. Particularly recent accounts recede from a strictly bidirectional correlation between case-assignment and ϕ -agreement; case may be assigned/licensed in a ϕ -agreement position but the need to be case-assigned is not necessarily a trigger for movement. A final line of approaches uses neither ϕ -agreement, case, nor the EPP as an A-movement trigger, but states that A-movement is driven by an unspecific, structure-building probe [D], which requires a DP in its specifier (see among others Müller and Sternefeld, 1993; Heck and Müller, 2007; Poole, 2015; Zyman, 2018). The notion of [D] has its roots in works on null subjects (*pro*), assuming that in some languages, T can be merged with a valued/interpretable [D] feature and thereby avoids expressing an overt subject (Chomsky, 1981; Borer, 1986; Rizzi, 1986; Jaeggli and Safir, 1989; Alexiadou and Anagnostopoulou, 1998; Landau, 2004; Holmberg, 2005). Such a [D]-feature, when unvalued, triggers A-movement of subjects (in languages which do not allow null subjects). A [D]-feature approach allows for A-movement to be an operation independent from case and ϕ -agreement, and, to some degree, manages to reformulate the EPP in more minimalist terms. This is particularly relevant for movement operations that diverge from typical passivization, raising or case patterns but nevertheless exhibit A-properties: one example would be A-scrambling, as found in German and Hindi. In A-scrambling configurations, a constituent appears outside of its base-generated position, and is commonly argued to have moved there (Webelhuth, 1989; Mahajan, 1990; Saito, 1992; Müller and Sternefeld, 1993; Bošković and Takahashi, 1998; McGinnis, 1998; among many others). This movement shows hallmarks of A-movement (in terms of binding, reconstruction and alike), however, has nothing to do with case or ϕ -agreement, but, on the other hand, has an effect on information structure (the scrambled DP receives a definite/specific interpretation). If treating scrambling and subject-movement as the same kinds of (A-)movement, then a [D]-feature based account might have advantages over case-, agreement- and EPP- based approaches.⁶

(35) *German A-scrambling*

- a. *Peter las **die Bücher** ohne Zweifel nie t.*
 Peter read **the books** without doubt never *t*
 'Peter, undoubtedly, never read these books.' (Vikner, 2005: 393)
- b. **Peter las **irgendwelche Bücher** ohne Zweifel nie t.*
 Peter read **any books** without doubt never *t*
 'Peter, undoubtedly, never read any books.'

In this thesis, I pursue an approach where A-movement is movement motivated by [ϕ], paired with a movement-inducing [EPP]-feature. I assume that A-movement is not triggered by the nominals need to be case-licensed but usually coincides with case-assignment. Note that this approach cannot be applied A-scrambling (as it never has repercussions on ϕ -agreement) and therefore, there must also exist other triggers for A-movement (aside from [ϕ +EPP]). For this thesis, I set aside A-scrambling and focus on A-movement operations that can have repercussions on ϕ -agreement and case. In chapter 3, I investigate the correlation between ϕ -agreement, case-licensing and A-movement, and suggest that they are three independent (but

⁶Note, however, that scrambling again is often summarized under yet another class of probes, usually referred to as [Σ]; Grewendorf and Sabel, 1999; Kawamura, 2004.

usually correlating) operations. I propose that $[\phi]$ -probes may be merged with a movement-inducing sub-feature [EPP] (or as *strong* feature in terms of Chomsky, 2001; Chomsky, 2008). If $[\phi]$ is merged without [EPP], it may ϕ -agree with a goal but not induce movement thereof. If it is merged strong, it contains a second-order [EPP]-feature, which requires its specifier to be filled with the agreed-with goal. A $[\phi^{EPP}]$ probe will induce A-movement, whereby, A-movement is contingent on ϕ -agreement. Note that this is the case in the languages under discussion; there might be instances where A-movement occurs independently of $[\phi]$. This is for example the case in Icelandic, where a quirky subject may undergo A-movement whilst ϕ -agreement targets the nominative object (see Zaenen, Maling, and Thráinsson, 1985). For the languages under discussion in this thesis, I assume that A-movement is induced by $[\phi^{EPP}]$ and correlates with ϕ -agreement (as long as ϕ -agreement is expressed overtly).

As for the semantics of A-movement, van Urk, 2015 suggests that A-movement abstracts over individuals, deriving a predicate of type $\langle e, t \rangle$. Thereby, it differs from A'-movement (abstracting over individuals) in inducing another kind of abstraction, hence another kind of predicate respectively (see chapter 5, section 5.3).

To conclude, there are various accounts on the underlying triggers for A-movement: movement might happen i) for case-licensing reasons, ii) as a result of ϕ -agreement, iii) as an effect of the EPP, that is a head's requirement to project and overtly fill its specifier or iv) as a result of an structure-building [D] feature, attracting the closest nominal. In the rest of the thesis, I pursue an approach along the lines of ii) and iii), that is A-movement is triggered by ϕ -agreement, merged with an EPP property (see also chapter 3).

2.4.3 Positions versus features

The last section discussed potential triggers for A'- and A-movement and laid out the syntactic preliminaries of this thesis. All of the considered approaches were set in a Merge and Agree based system of movement, that is that all movement is the effect of a probing head agreeing with a fitting goal. The last question we need to address is where the actual A'/A distinction comes from, that is why the two kinds of movement are associated with different properties. Syntactic accounts roughly fall into two camps with respect to the answer; i) positional accounts which tie the A'/A distinction to the different height and type of landing sites of A'- versus A-movement, versus ii) featural accounts where the movement quality is contingent on the type of probing features, irrespective of what head in the structure they are located on.

- (36) a. **Structural-positional accounts:** A'- and A-movement have different landing sites in the clausal spine. Their distinct heights (and/or association with argument-structural properties) derive the A'/A distinction (Chomsky, 1981; Webelhuth, 1989; Mahajan, 1990; Williams, 2002; Müller, 1995; Keine, 2016; 2018; Poole, 2023).
- b. **Featural accounts:** A'- and A-movement are triggered by different feature classes: [A'] features like [wh], [rel], [foc], [top] versus [A] features like $[\phi]$, or [D]. The properties of the movement chain are contingent on the feature class (Chomsky, 2008; Takahashi and Hulsey, 2009; Obata, 2010; Obata and Epstein, 2011; van Urk, 2015).

Hence, the question is whether A'-movement exhibits the respective A'-properties because it moves to a certain position in the clause (e.g. SpecCP) or because it was triggered by a certain class of feature ([A']). The same must be asked for A-movement: does it have A-properties because its landing-site is below CP or because it was probed by an [A] feature (like [ϕ])?

Structural A- and A'-positions In structural-positional accounts, the quality of a movement chain is defined by its landing-site. A-positions are such which are associated with thematic licensing (θ -positions) or with case-assignment. These positions are found inside the verbal domain (v /VoiceP) and the inflectional domain (TP). Since they are below CP, such movement stays clause-internal in finite clauses and can only leave reduced/non-finite clauses.⁷ As such positions are standardly associated with case-licensing and agreement, they can only host noun phrases, as only such can agree with the verb and be case-assigned. As for reconstruction and cross-over effects, one has to assume that movement below CP can re-order argument structure and binding correlations, as it might happen before LF interpretation. A'-positions, on the other hand, are located on phase-edges (for example CP; see Chomsky, 2008), above the case- and agreement-related domains.⁸ They are not restricted to noun phrases as they have nothing to do with agreement or case, and allow (cyclic) long-distance movement, given their location as the highest specifier of a clause. As for reconstruction effects, movement to such high positions might happen after LF interpretability and thereby cannot have an effect on binding relations (see for example Abels, 2007).

Positional accounts have to assume that A'- and A-movement is strictly associated with different clausal height, that this difference holds across languages and is quite stiff in its predictions; movement either targets CP or it does not, thus it either is of type A' or it is not. As we will see later, positional accounts do not straightforwardly allow to account for movement types that are mixtures between A'- and A-movement, unless one adds a dedicated projection for these kinds of movement (as is for example the case in Bošković, 2024, who suggests adding an A'/AP between CP and TP).

A'- and [A] features Later approaches to the A'/A distinction tie it to class of features involved instead of the positions targeted. The quality of movement is defined

⁷Note that it is a bit more complicated than that: whether a complement clause allows A-movement across its clause-boundary may depend on two factors; whether it involves a CP-layer and whether it is finite. The connection between a CP layer and finiteness, on the other hand, is subject to debate, see Wurmbrand, to appear for a recent overview. Complicating factors in English are embedded root clauses, such as *that*-less clauses complement clauses, (ia) or reduced relative clauses, such as (ib) (see Heycock, 2006).

(i) a. She said [he left]
b. the chest [the key opened] (Doherty, 2000: 9)

There is ongoing debate as to whether root clauses involve a CP layer (Stowell, 1981, Pesetsky, 1992, Bošković, 1997; Bošković and Lasnik, 2003) or are bare TP clauses (Hegarty, 1991; Webelhuth, 1992; Doherty, 1993; 1997; 2000; Svenonius, 1994; Wurmbrand, 2014b). They only allow A'-movement, not A-movement, to proceed out of them, which is surprising under a TP analysis. Hence, both finiteness and the presence of a CP-layer might act as restricting factors for A-movement, whilst possibly not being bi-directionally dependent on each other (see also Adger, 2007; Wurmbrand, to appear).

⁸Note that v VoiceP is commonly assumed to be a phase edge too but nevertheless thematically introduces the agent.

by the type of triggering probe. The base-line of this assumption is the above introduced minimalist claim that all movement (final as well as intermediate) is the result of an agreement process between a probe and a goal (among many others Torrego, 1984; Chung and McCloskey, 1987; Kinyalolo, 1991; Collins, 1993; Chomsky, 1995; Henry, 1995; Schneider-Zioga, 1995; Pesetsky, 2001; 2007; McCloskey, 2002; Miyagawa, 2010; Torrence, 2012; Watanabe, 2012; Georgi, 2014). The functional spine is equipped with different kinds of features ([wh], [rel], [foc], [top], [ϕ], [D]) which trigger movement when agreeing with a fitting goal.⁹ van Urk, 2015 argues that different feature classes may be held accountable for the A'/A distinction: depending on the type of probing feature, the resulting movement chain is either of type A' or A. He classifies features into two kinds, A'-type features, conflating [top], [foc], [wh], [rel] versus A-type features, spanning [ϕ]- and [D]-features. If movement is attracted by a feature stemming from the A'-class, it will exhibit A'-properties whereas if it is induced by an A-type feature, it will have A-quality.

An Agree-based perception of movement and a featural view of the A'/A distinction adds three A'/A distinguishing properties to our table: movement chains differ in their minimality profiles, their ϕ -agreement properties and information-structural effects. Minimality is a restriction on Agree to target the closest fitting goal, stated as the principles *Relativized Minimality* (Rizzi, 1990), *Shortest Move* (Chomsky, 1995) or *Attract Closest* (Hornstein, 1999).

- (37) *Relativized Minimality* (Rizzi, 1990)
A syntactic relation R must involve the closest XP capable of entering into R.

Thus, if A-movement is induced by a [ϕ]-feature, then A-movement has to be restricted to the closest ϕ -goal. Most commonly, noun phrases count as ϕ -goals (however, also whole CP clauses (Halpert, 2012; 2016) or TP complements (Pesetsky, 2001; 2007) might constitute ϕ -goals). A-movement may thereby not cross an intervening ϕ -goal, as in (38), where A-movement of *catnip* cannot cross the closer ϕ -goal *Luna*. The restriction to the closest ϕ -goal is labeled A-minimality; A-movement thereby is *A-minimal*.

- (38) *English passivization* (Grishin, 2023: 281)
a. **Luna** was given *t* catnip.
b. ***Catnip** was given Luna *t*.

A'-movement, on the other hand, is *A'-minimal*; the movement-triggering [A'] probe agrees with the closest A'-goal. Since only some but not all elements in a clause carry [A'] features, a DP goal lacking [A'] will be skipped, as it does not constitute a fitting match, (39). As predicted by relativized minimality, an intervening wh-DP cannot be skipped by an [A'] probe, as shown in (40).

- (39) *English wh-extraction* (Grishin, 2023: 278)
a. **Who** do you think *t* stole the jewels?
b. **What** do you think the burglars stole *t*?
- (40) *English wh-extraction* (Grishin, 2023: 278)

⁹Note that not all features/probes necessarily trigger movement and that agreement and movement need not be a direct correlation (Alexiadou and Anagnostopoulou, 1998; the relevant configurations in this thesis are, nevertheless, the ones which induce overt movement dependencies. A more thorough discussion of movement-inducing features in terms of strong and weak features (Chomsky, 1991; 1995; Müller, 1999; Heck and Müller, 2007; Müller, 2010; Georgi, 2014; Longenbaugh, 2019) can be found in chapter 4, section 4.7.

- a. **Who** do you think *t* stole what?
- b. ***What** do you think who stole *t*?

Thus, neither A-movement nor A'-movement can cross an element of its kind; A-movement cannot cross another noun phrase whereas A'-movement cannot cross another A'-typed phrase (but can cross regular noun phrases). Rackowski and Richards, 2005, Halpert, 2012, 2016, van Urk, 2015 suggest that CP clause-boundedness is an extended implication of relativized minimality: CPs, like DPs, carry ϕ -features and thereby act as interveners for A-probing. This assumption builds on the *A-over-A* principle (Ross, 1967), stating that if a probe searches for a goal X in the structure, then the probe must agree with the closest available goal X and cannot look inside it and agree with for a further embedded goal, ignoring X. I do not specifically argue against this account, but for reasons of clarity list *restriction by CP boundary* and *minimality* as two different properties. The two might eventually be two sides of the same coin.

Another A'/A distinctive property that follows from a featural implementation is the correlation of A'-movement with information-structural effects and the correlation of A-movement with ϕ -agreement. A feature-based account states that all A'-movement is induced by a probe of either type [wh], [rel], [top] or [foc] – thus all A'-movement coincides with effects like question formation, relativization, focalization or topicalization. A-movement, on the other hand, is triggered by ϕ -features in a featural account. Therefore, we expect it to involve ϕ -agreement, but no information structural effects.

A final correlation (independently of what triggers movement) between A'- and A-movement is their (in-)ability to feed each other in multiple movement chains. A cross-linguistically observed restriction on movement chains is that an A-movement chain can feed a subsequent A'-movement chain, (41a), whereas A'-movement cannot feed subsequent A-movement, (41b). This prohibition is formulated as the *Ban on Improper Movement*.

- (41) *English BIM* (Abels, 2007; 61)
- a. **What** *t*_{A'} seems [*t*_A to have been said *t*_A]?
 - b. ***What** *t*_{A'} seems [*t*_A that it was said *t*_{A'}]?
- (42) *The Ban on Improper Movement (BIM)* (paraphrased from Chomsky, 1973 *et seq*)
- An A'-movement chain cannot feed an A-movement chain (in classical terms: movement from CP must land in CP, and cannot target TP)

The syntactic reasoning behind the BIM is discussed in chapter 4, section 4.5, based on Abels' 2007 *Universal Constraint on Operational Ordering in Language (UCOOL)*. For the moment being, I treat the BIM as a universal constraint, adding to the A'/A distinction.

2.4.4 The extended A'/A distinction

Including relativized minimality effects, information-structural effects, ϕ -agreement and the BIM renders an extended version of the A'/A distinction, shown in table 2.5. Whenever I speak of the A'/A distinction or A'/A distinguishing properties, I refer to the properties listed in this table. Note that in this table, reconstruction effects are indicated as "no" and "mostly yes" whilst in most of the subsequent tables, they are

replaced by – and +. This is for the sake of simplicity and because in most cases, it is the lack of reconstruction that is relevant and not its presence.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	no	mostly yes
interacts with case/ ϕ	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 2.5: The full A'/A distinction

The A-property "cannot cross another A-element" will also be referred to as A-minimality; an A-element refers to a phrase carrying $[\phi]$ -features. The A'-property "cannot cross another A'-element" will be referred to as A'-minimality; A'-movement can cross elements with bare $[\phi]$ -features but is blocked by elements with $[A']$ features.¹⁰ These underlying assumptions make different predictions as to whether all A'-movement blocks all other A'-movement or only movement chains of the same kind (e.g. *wh* and *wh*) block each other whereas they have no influence on other A'-chains (e.g. topicalization and *wh*-movement). The mixtures of different A'-movement chains are a huge topic in syntactic research, particularly in cartographic approaches (Rizzi, 1990 and following), however, for this thesis, such mixtures are mostly irrelevant. I therefore use the umbrella-term $[A']$ feature whenever I refer to one instance of A'-movement. Fitzpatrick, 2006 adds as a further distinguishing property floating quantifiers (QF) which can be stranded by A'-movement (in θ -positions) but not by A-movement (although see Bobaljik, 2003 for a more careful take on QF). Richards, 2014 discusses pied-piping as another A'/A distinguishing property (see also Heck, 2004; Cable, 2007). Due to the limited scope of this thesis, I do not investigate QF and pied-piping in the languages under discussion; I leave this matter open for future research. Last, note that the A'/A distinction in table 2.5 describes instances of A-movement that have been induced by $[\phi]$ features. It does not directly translate to movement operations like scrambling: A-scrambling, for example, behaves like A-movement in all respects but does not interact with ϕ -agreement or case and is more difficult to capture under the BIM (Abels, 2007). For this thesis, I set A-scrambling aside.

2.4.5 Predictions of a featural approach

For languages like English, a featural perception of the A'/A distinction makes the same predictions as a positional approach. If we assume that in English, $[A']$ probes sit on C and $[\phi]$ probes on (finite) T, then A'-movement will target SpecCP and A-movement will target SpecTP. Whether they express their respective A'- or A-properties because they end up in these locations or because they were triggered by

¹⁰For the moment I leave open in what way these $[A']$ features are organized, that is whether they might occur on different C heads or are organized in a featural geometry (Rizzi, 2004; Abels, 2012b; Aravind, 2017).

a certain class of probe comes down to not more than a technical detail. While the A'/A distinction holds in most well-studied languages and allows to make predictions about what sort of phrasal movement is involved in a given derivation, it gets less clear of a distinction when looking beyond the best studied languages. There are languages where the English based two-way split into A'- and A-movement is simply not tenable. Such languages are described as exhibiting *mixed or composite A'/A derivations*; that is derivations which mix and match properties from both sides of table 2.5 within one movement chain.

This thesis is dedicated to arguing that for such cases, a featural approach makes the better predictions: it allows us to capture cross-linguistic variation that a purely positional account misses. Along with a featural perception of the A'/A distinction comes the theoretical option of feature bundles, that is two features combining on a single head. The unison of probing features into one complex probe is suggested in a variety of research on unrelated phenomena (e.g. Chomsky, 2001; Bruening, 2001b; Pesetsky, 2001; Starke, 2001; Haegeman, 2012; Rezac, 2013; Coon and Bale, 2014; Kotek, 2014; Deal, 2015), thus nothing about it is unexpected. In the case of [A'] and [A] features, a feature bundle renders what is termed a *composite [A'/A] probe* (van Urk, 2015). Accepting the existence of composite [A'/A] probes, mixed A'/A derivations are simply the result of a composite probe as movement triggering force. Positional approaches have to explain mixed A'/A derivations in other ways; they either have to fuse two specifiers/phrases into one, assume additional, mixed positions or postulate two-step movement chains. Whilst none of these approaches is per se more (or less) stipulative than [A'/A] probe bundles, I will argue that a purely positional approach has a harder time explaining the different combinations of A'- and A-properties we find in composite derivations, shown in more detail in section 2.4.3. A'/A derivations cross-linguistically exhibit different mixtures of A'- and A-properties; this thesis argues that all of the empirically observed A'/A mixtures are predictable in a featural approach, whereas they are more difficult to account for in a positional one. Note that I do not let go of a positional account completely, and potentially, a combination of a positional and a featural account make the right predictions about bare and mixed movement chains in natural language. The quality of movement itself might tie to the feature-type involved in Agree. However, features, most likely, are not randomly distributed over the functional spine, they usually introduced on specific heads: in most accounts, [A'] features are associated with phase-edge heads, whereas inflectional heads are introduced with [ϕ]-features.¹¹ Possibly, this distribution is the default/ most economical one¹² whereas composite [A'/A] probes involve an additional derivational step (e.g. phrasal fusion), see chapter 4, section 4.11. Thus, a composite [A'/A] probe always ties to a positional change in the clause; notably, however, I will argue that the A'- and A-properties themselves are the sole effect of the features involved in Agree, irrespective of where in the clause these features are located or end up at (van Urk, 2015).

While the possibility of multiple features combining on one head is commonly accepted for [ϕ]-feature bundles (Bobaljik and Thráinsson, 1998, Béjar and Rezac, 2003, Coon and Bale, 2014, Preminger, 2014, Deal, 2015, 2020, Coon and Keine, 2020), the combination of [A] and [A'] features was only brought up only fairly recently (Miyagawa, 2010; van Urk, 2015), but ever since has been extensively used in syntactic analyses dealing with (from an English perspective) unusual movement patterns.

¹¹For a theoretical explanation thereof, see for example feature inheritance frameworks like Richards, 2007; Obata, 2010.

¹²Although see Miyagawa, 2010 for an opposed account.

Composite [A'/A] probes are appealing as analytical tool for movement types that do not strictly classify as pure A- or A'-movement. Such movement is found in several unrelated languages: A'-extraction interacting with ϕ -agreement and case (for instance in Nilotic Dinka Bor, van Urk, 2015), long-distance A-dependencies across a CP boundary (for instance in Hyperraising to subject or object or long-distance agreement), mixtures of subject- and topichood (in some Austronesian languages, like Balinese and Malagasy, Erlewine, Levin, and van Urk, 2017; 2019; Patrianto and Chen, 2023a) or passivization mixed with topicalization (for instance in Mandarin Chinese; Chen, 2023 or Khanty; Colley, 2018), to only list a few. The following section gives an overview of mixed derivations and what exact A'- and A-properties they involve. The empirical overview is followed by an outline of how a featural perception of movement predicts mixed A'/A derivations and, more importantly, the different combinations of A'/A properties we find therein (section 2.7).

2.5 Composite A'/A derivations

This section gives a short overview of mixed A'/A derivations cross-linguistically, that is configurations that exhibit both A'- and A-properties in one movement operation. Most of the examples listed in this section will constitute the empirical basis of this thesis and are examined and analyzed in detail in chapters 5, 6, 7 and 8. Subsection 2.5.1 illustrates cases in which A'-extraction (like wh-movement, topicalization or focalization) involves A-properties, as is found in Dinka Bor and Mandarin Chinese. Subsection 2.5.2 examines instances where A-movement like passivization comes with additional A'-properties, as is the case in Mandarin Chinese or Khanty. Subsection 2.5.3 looks at cases where topic- and subjecthood are not clearly disentangled, like Austronesian pivots. In subsection 2.5.4, I examine long-distance A-movement, termed *Hyperraising*, that is languages that allow A-movement to leave a fully finite CP clause. Subsection 2.5.5 treats a related phenomenon, long-distance agreement, where ϕ -agreement can span a finite clause boundary. In subsection 2.5.6, I investigate extraction restrictions, that is cases where A'-extraction is limited to a specific element. Eventually, I will exclude extraction restrictions from my analysis, arguing that they involve a different kind of composite probe than truly mixed A'/A configurations do. Subsection 2.5.7 deals with other phenomena that might fall under "mixed A'/A derivations" but have not anywhere yet received a dedicated [A'/A] probing analysis. These cases will not be included in the remainder of this thesis, but might indicate directions for future research. In the subsequent section 2.6, I give an overview of existing [A'/A] probing accounts and how composite [A'/A] probes are used in syntactic research to capture mixed movement dependencies, as the ones listed in this section. In this section I particularly focus on the variation across analyses, how composite [A'/A] probes on the one hand are a useful tool but how, on the other hand, we still lack a systematic understanding of the syntactic mechanisms underlying such probes. After having walked through the relevant phenomena and analyses, I argue that composite [A'/A] probes are in fact the most accurate and predictive analysis for mixed A'/A configurations, see section 2.7, but we are in need of a more systematic of their probing mechanism in order to properly include them into our current syntactic theory.

2.5.1 Wh-extraction/ topicalization/ focalization with A-properties

Probably the best known instance of composite A'/A derivations is A'-extraction with A-properties. Such configurations are found in the Nilotic language Dinka Bor (van Urk, 2015) and Mandarin Chinese low topics and foci (Kuo, 2009; Chen, 2023). What we observe in these languages are A'-extraction patterns (wh-movement, relativization, topicalization in Dinka; focus and topic movement in Mandarin) that depict certain properties of A-movement. In Dinka, an A'-extracted nominal receives unmarked case, does not reconstruct for principle C, obviates WCO, creates new antecedents for anaphor binding and feeds further A-movement. Simultaneously, such movement is not restricted by a CP boundary, reconstructs into its base-position for principle A, triggers information-structural effects (topicalization, wh-formation, relativization) and is A'-minimal, that is, it can cross intervening DPs. Table 2.6 shows the properties of Dinka topicalization, relativization and wh-movement. Each of these movement operation simultaneously exhibits properties from both sides of the table (the boxed ones); in example (43), for example, topicalization is restricted to a ϕ -goal (the noun phrase *food*). *Food* receives unmarked case and ϕ -agrees with the verb, whilst at the same time is information-structurally interpreted as topic. What is not directly observable in example (43) is that this kind of topicalization may cross a CP boundary, is not restricted to the highest ϕ -goal, obviates weak crossover, does not reconstruct and feeds subsequent A-movement. I do not have access to parasitic gap data and therefore cannot tell whether they are licensed by mixed movement in Dinka. An in-depth discussion of the relevant data can be found in chapter 5 (section 5.7), chapter 8 as well as in van Urk, 2015.

- (43) *Cuñin à-yàa tàak [CP kɛ céɛm Áyén t]*
Food 3S-HAB.1SG think.NF [CP C eat.OV Ayen.GEN t]
 'The food, I think Ayen is eating.' *Dinka topic* (van Urk, 2015: 94)

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	–	+
interacts with case/ ϕ	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 2.6: The Dinka A'/A distinction; data from van Urk, 2015

A similar A'/A pattern is found in Mandarin Chinese low topics and foci (that is, topicalization and focalization targeting a position below T) as shown in (44), where *this book* is topicalized.

- (44) *Lisi zhe-ben shu kan-wan-le t*
 Lisi **this-CL book** read-be.finished-PRF t
 'Lisi, this book, finished reading (it).'
- Mandarin Chinese low topic* (Chen, 2023: 101)

Low topicalization/focalization does not reconstruct for principle C, obviates WCO, creates new antecedents for anaphor binding, is restricted to nominals and cannot cross a CP boundary. Simultaneously, it triggers information-structural effects (topicalization, focalization) and may cross intervening DPs/ ϕ -goals, summarized in table 2.7. Even though case is not expressed morphologically in Mandarin Chinese, Chen, 2023 argues that low topics/foci feed exceptional case-marking; thus they interact with case. Parasitic gaps and the BIM lack boxed values in table 2.7, since the relevant data are not discussed in Chen, 2023; it might even be the case that Mandarin Chinese lacks parasitic gaps completely (Liu, 2024). The data listed in table 2.7 can be found in chapter 5 (section 5.7), chapter 8 as well as in Kuo, 2009 and Chen, 2023.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	-
can proceed across CP boundary	-	+
creates new antecedents for anaphor binding	+	-
induces weak crossover	-	+
licenses parasitic gaps	-	+
must reconstruct	-	+
interacts with case/ ϕ	+	-
can bypass intervening DPs (minimality)	-	+
can feed into A-movement (BIM)	+	-
info-structural/ clause-typing effects	-	+

TABLE 2.7: The Mandarin low focus/topic A'/A distinction; data from Chen, 2023

van Urk, 2015 and Chen, 2023 present composite probe analyses for the mixed configurations in Dinka and Mandarin Chinese; in both analyses, an [A'/A] probe triggers movement of a an A'/A goal. This results in a mixture of A'- and A-properties of the induced movement chain. When comparing the two tables 2.7 and 2.6, we see that the Dinka and Mandarin configurations show roughly the same mixture of A'/A properties (apart from the ability of movement to cross a CP boundary). So far, we could conclude that composite A'/A movement is simply a third kind of movement, exhibiting the same mixture of A'- and A-properties across languages. In the next sections we will see that, unfortunately, this is not universally the case: other composite A'/A configurations come with other mixtures of A'- and A-properties.

2.5.2 Passivization with A'-properties

Another instance of composite A'/A derivations are Mandarin Chinese and Khanty passives (Chen, 2023; Colley and Privoznov, 2020). In these constructions passivization (usually an instance of A-movement) mixes with A'-related properties. The first example are Mandarin Chinese BEI passives, shown in (45). In these constructions, the passivized element (*Lisi*) is moved to clause-initial position, whereby it exhibits both A'- and A-properties.

- (45) *Lisi bei (wo) male t*
Lisi BEI (1SG) scold-PRF *t*
 'Lisi was scolded (by me).' *Mandarin Chinese BEI passive* (Chen, 2023: 36)

As for its A-properties, the passivized DP creates new antecedents for anaphor binding, obviates WCO, does not reconstruct for principle C, cannot cross a CP boundary and feeds further A-movement. At the same time, on the A'-property side, it is A'-minimal (that is, it can cross higher ϕ -elements), and tends to exhibit information-structural effects (definiteness, specificity); often, it is compared to relativization (Huang, Li, and Li, 2009). The mixture of properties is summarized in table 2.8; again, the properties which lack a boxed value, do not have access to the relevant data. Chen, 2023 brings forward an analysis in terms of a composite [A'/A] probe on a Pass head. All relevant data can be found in chapter 5 (section 5.7), chapter 8 as well as in Chen, 2023.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	–	+
interacts with case/ ϕ	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 2.8: The Mandarin BEI passive A'/A distinction; data from Chen, 2023

A similar configuration is observed in Khanty passive formation. The passivized subject *candy* in (46) behaves like A-movement in that it may only be a noun phrase, receives case and obviates WCO. At the same time, passivization is A'-minimal, thus may cross intervening ϕ -elements and triggers information-structural effects (topicalization). The mixture of A'- and A-properties is summarized in table 2.9; again, for the properties lacking a boxed value I lack the relevant data. Colley and Privoznov, 2020 analyse Khanty passives as the result of an [A'/A] probe in TP.

- (46) *maw-λ-am māša-jen-ə naur-εm-a mā-s-ī-jət*
candy-PL-1SG Masha-2SG-LOC kid-1SG-DAT give-PST-PASS-3PL
 'My candy was given by Masha to my kid.'
Khanty passive (Colley and Privoznov, 2020: 112)

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	–	+
interacts with case/ ϕ	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 2.9: The Khanty passive A'/A distinction; data from Colley and Privoznov, 2020

2.5.3 Topic-subject mixtures

Many Austronesian languages are famous for their rich voice-system. In each clause, one argument is highlighted and promoted to a more salient interpretation than the others, referred to as the *pivot* (also *trigger* or *subject*). Pivots are marked in two ways: they are on one side cross-referenced by verbal morphology ("voice-marking") and on the other side exhibit a sort of "pivot marking", which is either a morphological marker on the argument itself (e.g. the Tagalog *-ang* marker) or a dedicated position in the clause (e.g. pivots in Malagasy are clause-final, in Balinese they are clause-initial). Take for example Malagasy (47), illustrating how a transitive clause may be expressed in three different ways, depending on the choice of pivot. In (47a), the agent *Sahondra* is promoted to pivot: it is moved to clause-final position, and cross-referenced by AV morphology on the verb (AV stands for *agent voice* and, simplified, indicates that the agent has been promoted to pivot). *Sahondra* is interpreted as more topical than the other arguments and needs to refer to a specific/ definite entity in the world. In (47b), the theme *tree* is promoted to pivot, visible by its clause-final position and PV (*patient voice*) marking on the verb. By being promoted to pivot, *tree* in (47b) is interpreted as the most salient, topic-like argument.

- (47) *Malagasy promotion to pivot* (Paul, 2000: 9)
- a. *Nanapaka ity hazo ity tamin'ny antsy i Sahondra*
 PST.AV.cut this tree this with.GEN.det knife **Sahondra**
 'Sahondra cut this tree with the knife.'
- b. *Notapahin'i Sahondra tamin'ny antsy ity hazo ity*
 PST.TV.cut.GEN.Sahondra with.GEN.DET knife **this tree this**
 'This tree, Sahondra cut with a knife.' (own paraphrase)

Pivot systems fall into in two types, Philippine-type and Indonesian-type, defined by their richness of voice markers: Phillipine-type languages express three to four different voices (usually differentiating between agent, patient, circumstantial and a form of locative voice), Indonesian-type languages express two voices (agent voice and object voice). The Austronesian languages relevant for this thesis are Malagasy (Philippine-type) and Balinese (Indonesian-type). I will argue that promotion to pivot in these two languages constitutes a mixture of promotion to subject (that is, a form of argument-structure reordering) and topicalization (that is, a form of information-structure reordering), based on similar claims from MacLaughlin, 1995;

Arka, 2003; Pearson, 2005; Erlewine, Levin, and van Urk, 2017; 2019; Patrianto and Chen, 2023a). The mixed nature of pivot movement is visible from the following facts: pivots receive unmarked case, are restricted to ϕ -elements, create new antecedents for anaphor binding, obviate WCO, show optional reconstruction effects, do not license PGs and feed subsequent A-movement. At the same time, promotion to pivot can cross a CP-boundary, is A'-minimal (that is, it can cross intervening ϕ -elements) and triggers information- structural effects in the form of a definiteness/specificity requirement. The mixture of A'- and A-properties of promotion to pivot is summarized in table 2.10.¹³

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	–	+
interacts with case/ ϕ	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 2.10: The Balinese/Malagasy A'/A distinction

Erlewine, Levin, and van Urk, 2017; 2019; Lohninger and Katochoritis, to appear (and to some extent van Urk, 2015) bring forward an A'/A analysis for Malagasy and Balinese. In chapter 7, I will refine and extend this analysis, suggesting that Balinese and Malagasy involve and [A'/A] probe in the left periphery and in VoiceP and that promotion to pivot is a process that involves properties of both topicalization and subject alternation.

2.5.4 Long-distance A-movement

Another outlier of the A'/A distinction is A-movement crossing a finite CP boundary, as is the case in *Hyperraising to subject* or *object*. "Regular" raising (as found in English) is restricted by CP boundaries, that is may only proceed out of a non-finite embedded TP clause, shown in (48) and (49).

(48) *No Hyperraising to subject in English* (Zyman, 2023: 30)

- a. **She** seems [*t* to be corrupt]
- b. ***She** seems [(that) *t* is corrupt]

(49) *No Hyperraising to object in English* (Zyman, 2023: 30)

- a. I believed **her** incorrectly [*t* to be corrupt]
- b. *I believed **her/she** incorrectly [(that) *t* was corrupt]

¹³Note that table 2.10 only describes properties of promotion to pivot. Balinese and Malagasy also restrict wh-extraction and relativization to the pivot of a clause and thereby resemble Dinka; I do not investigate if wh-movement and relativization in Austronesian involves A-properties too, and if yes, which ones. Extraction restrictions might arise from a competition between promotion to pivot and other A'-extraction (Erlewine, 2018), shortly discussed in chapter 7.

There are, however, several languages that allow constructions like (48b) and (49b). Hyperraising to subject or object, can be found in Brazilian Portuguese (*a.o.* Nunes, 2008; Martins and Nunes, 2010; Dias, 2022), Cantonese and Vietnamese (Lee and Yip, 2024). Hyperraising to object is observed in Buryat (Bondarenko, 2017), Janitzio P'urhepecha (Zyman, 2017; 2018), Japanese (*a.o.* Kitano, 1990; Horn, 2008), Korean (*a.o.* Yoon, 2007; Lee, 2016), Mongolian (Fong, 2019; Gong, 2022), Nez Perce (Deal, 2017a), Romanian (Alboiu and Hill, 2016), and Turkish (Şener, 2008; 2011). There are some more languages allowing Hyperraising configurations (see Ademola-Adeoye, 2011 for an extensive overview); due to space I only take into account the ones listed above. Example (50) depicts Hyperraising to subject in Cantonese. The embedded subject *rain* is raised out of the embedded CP clause, and becomes the subject of the matrix verb *hear*.

- (50) *Coeng jyu tengman* [*waa t m-wui ting*]
 CL **rain** hear [C *t* not-will stop]
 'It is felt/heard that the rain will not stop.'
Cantonese Hyperraising to subject (Lee and Yip, 2024: 2)

Example (51) shows Hyperraising to object in Romanian. The embedded subject *Victor* is moved out of the embedded CP clause and to matrix object position.

- (51) *L-am mirosit pe Victor* [*că t e fericit*].
 him-have.1SG smelled DOM **Victor** [C *t* is.3SG happy]
 'I figured out that Victor is happy.'
Romanian Hyperraising to object (Alboiu and Hill, 2016: 256)

Setting aside minor language-specific peculiarities, Hyperraising configurations depict a surprisingly uniform mixture of A'/A properties cross-linguistically. The hyperraised element has to be a noun phrase, may be case-licensed in its landing site, usually has to correspond to the highest embedded argument, thus cannot cross an intervening ϕ -goal (although there are exceptions to that requirement), obviates weak crossover, can but does not have to reconstruct and in most languages may feed subsequent A-movement. At the same time, movement can cross a CP boundary, and often shows information-structural effects, such as a requirement for topicality. Table 2.11 summarized the relevant properties.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	–	+
interacts with case/ ϕ	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 2.11: The Hyperraising A'/A distinction

Wurmbrand, 2019 and Lohninger, Kovač, and Wurmbrand, 2022 present an analysis in which Hyperraising is mediated by a composite [A'/A] probe on the embedded C head. All relevant data, as well as a refined analysis will be presented in chapter 5 (section 5.7), and chapter 6.

2.5.5 Long-distance agreement

Related to Hyperraising is *long-distance agreement* (LDA), where matrix ϕ -agreement targets a DP embedded within a CP complement clause. Cross-linguistically, there are various instances of LDA, both with non-finite and/or reduced as well as finite, full CP complement clauses. In this thesis, I take into consideration LDA into finite CP complement clauses in the Algonquian languages Innu-Aimûn (Branigan and MacKenzie, 2002) and Passamaquoddy (Bruening, 2001b; LeSourd, 2019; Grishin, 2023) as well as in the Caucasian language Tsez (Polinsky and Potsdam, 2001). Example (52) shows LDA in Passamaquoddy: the matrix verb *suspect* ϕ -agrees with a DP (*her child*) embedded in a CP complement clause.

- (52) *Mali* 'piluwitaham-a-l [$\emptyset$ -nican-ol keq kisi= wapol-oluhke- $\emptyset$]
 Mary 3-suspect-3OBJ-OBV.SG [3-child-OBV.SG what PFV= wrong-do-3]
 'Mary suspects her child of wrongdoing.'
Passamaquoddy LDA (Grishin, 2023: 153)

For all three languages under discussion, it is assumed that the embedded, agreed-with element (*her child* in (52)) moves to the embedded SpecCP, where it becomes accessible for matrix agreement. The movement of the agreed-with DP from its base-position to embedded SpecCP is the one relevant for this thesis. LDA configurations involve a mixture of A'- and A-properties unrelated to everything we saw so far: the agreed-with DP needs to be a noun phrase (a ϕ -goal) and triggers ϕ -agreement, thus the relation between the matrix verb and the embedded DP counts as A-dependency. At the same time, movement of the agreed-with DP to the embedded left edge may cross other ϕ -elements (it is A'-minimal), induces WCO effects, mostly reconstructs into its base-position, does not feed further A-movement and shows information-structural effects, such as a topic- or a focus-requirement. The properties are summarized in table 2.12.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	-
can proceed across CP boundary	-	+
creates new antecedents for anaphor binding	+	-
induces weak crossover	-	+
licenses parasitic gaps	-	+
must reconstruct	-	+
interacts with ϕ	+	-
can bypass intervening DPs (minimality)	-	+
can feed into A-movement (BIM)	+	-
info-structural/ clause-typing effects	-	+

TABLE 2.12: The LDA A'/A distinction

Mursell, 2020; 2021; Wurmbrand, 2019 and Lohninger, Kovač, and Wurmbrand, 2022 present a composite probe analysis for LDA configurations, where an [A'/A]

probe on embedded C mediates LDA. The relevant data and discussion can be found in chapter 5 (section 5.7) and chapter 6.

2.5.6 A'-extraction restrictions

Another type of movement that is occasionally described as the result of composite probing is A'-extraction restricted to a certain case-value or specific argument. Some ergative languages restrict (nominal) A'-movement to absolutive (ABS) marked arguments, referred to as *Syntactic Ergativity* (SE) or *Ergative Extraction Constraint* (EEC). Take for example the Mayan language Q'anjob'al in which only the ABS-argument can undergo wh-extraction (53a); A'-extraction of ERG-marked arguments is prohibited, see (53b).

- (53) Q'anjob'al (Coon, Pedro, and Preminger, 2014: 192-193)
- a. *Maktxel max y-il naq winaq?*
who(ABS) PRF A3-see CLF man
 'Who did the man see?'
 - b. **Maktxel max y-il ix ix?*
who(ERG) PRF A3-see CLF woman
 Int.: Who saw the woman?'

Coon, Baier, and Levin, 2021 analyse SE as the result of a composite probe [A'/D] on C, attracting the closest nominal. In their analysis, the absolutive object moved across the ergative subject and thereby depicts the closest DP to C. Similar data and analyses can be found for Māori (Douglas, 2018), Nukuoro (Drummond, 2023), Inuit, Chuckchi, Kanamari, Tongan, and Shipibo-Konibo (Katochoritis, 2023), Shipibo (Deal, 2016), and for various Austronesian languages (particularly in accounts pursuing an ergative analysis of Austronesian voice Aldridge, 2004; 2008; 2017; Erlewine, 2018).¹⁴ Although A'-extraction interacts with case (i.e. is restricted to a specific case, ABS) in these languages, it is unclear whether these configurations really depict mixed A'/A properties or are, in fact, just A'-movement constructions with some nominal/case-specific restrictions. Note that restricted A'-movement is not limited to syntactic ergativity: Keenan and Comrie, 1977 famously point out that relativization cross-linguistically may be highly limited to different functions; their *Accessibility Hierarchy* shows that relativization follows an implicational hierarchy based on the grammatical function of the relativized element.

- (54) *Accessibility hierarchy* (Keenan and Comrie, 1977: 66)
 Subject > Direct object > Indirect object > Oblique > Genitive > Object of comparison

The Accessibility Hierarchy predicts that if a language restricts relativization to a specific element or a set of elements, these are not randomly selected but implicationally determined. For example, a language that is able to relativize its indirect object can also form relative clauses with direct objects and subjects, but not necessarily with obliques, genitives and objects of comparison. The exact cut-off points of the hierarchy are defined language-specifically.

Branan and Erlewine, 2020 propose a composite probe analysis to derive the Accessibility Hierarchy (Keenan and Comrie, 1977) via a [rel/D] probe (mainly for Turkish and Rejang relativization). They do, however, not mention any other A'- and

¹⁴I discuss Austronesian extraction restrictions in chapter 7; they might be related to syntactic ergativity but most likely do not fall in the exact same category.

A-properties such configurations might come with.¹⁵ Newman, 2023 addresses this issue, but, contrary, points out that the instances of relativization under investigation in Branan and Erlewine, 2020 are probably best analyzed as pure A-configurations, not involving A'-movement at all.

To conclude, since there is no clear data showing that syntactic ergativity (or extraction restrictions in relativization) really depicts a mixture of A'- and A-properties, it would exceed the scope of this thesis to investigate whether or to what extent this might be the case. I therefore leave instances of A'-extraction restrictions open to further research and do not include them in the analytical part of this thesis. Note that Austronesian languages restrict A'-extraction to the pivot, and that voice-marking in some accounts is analyzed as instance of (split) ergativity (*a.o.* De Guzman, 1976; 1988; Payne, 1982 Cooreman, 1994; Gerdts, 1988; Aldridge, 2004; 2008; 2016; Paul and Travis, 2006; Legate, 2014; Teng, 2016; Kaufman, 2017; Brodtkin, 2022); thus one could argue that Austronesian languages classify as an instance of syntactic ergativity. For the two Austronesian languages under consideration (Balinese and Malagasy), I refrain from an ergative analysis but continue along accounts suggesting nominative-accusative alignment (Chung, 1998; Richards, 2000; Rackowski, 2002; Rackowski, 2002; Paul, 2000; Pearson, 2005; Chen, 2017; Erlewine, 2018; Erlewine, Levin, and van Urk, 2017). A detailed reasoning can be found in chapter 7, and is based on data from obligatory control and non-pivot agent licensing (see also Lohninger and Katochoritis, to appear).

Having set aside syntactic ergativity and extraction restrictions for the moment (although see section 2.6 for more discussion), let us have look at some more configurations that might show mixed A'/A behavior, but for which I lack sufficient data to make a conclusive statement as to whether they count as composite configurations.

2.5.7 Other

There are some configurations that occasionally have been described as involving a composite [A'/A] probe, for which, however, I do not have access to sufficient empirical data to examine their exact mixture of A'/A properties. This section provides a list of such phenomena and accounts for which composite probes have been suggested, but which I cannot engage in detail in the thesis. For these phenomena, composite probes have mostly been used as a technical tool, and no concrete discussions of mixed A/A'-properties are available. While all of the phenomena would be worthwhile to consider further, this is not possible within the scope of a single thesis. Nevertheless, they are listed below for the sake of completeness and in order to give directions for future research.

Pronoun doubling in San Martín Peras Mixtec Ostrove, 2018 examines pronoun doubling in San Martín Peras Mixtec (an Oto-Manguean language spoken in Mexico), where the ϕ -features of an argument are duplicated on a preverbal morpheme. He analyses pronoun doubling as a [top/ ϕ] probe on a Top head in the C-domain.

- (55) *Rí xá'antya rà Juan chikí.*
 it cut.PRS he Juan tuna
 'Juan is cutting tunas.'

San Martín Peras Mixtec (Ostrove, 2018: 217)

¹⁵Apart from footnote 22, p.10, in which they vaguely state "As this probe seeks both A- and [A'] features, we might wonder whether the resulting movement has A- or A'-properties." (Branan and Erlewine, 2020: 10).

Ostrove, 2018 argues that pronoun doubling configurations show mixed A'/A properties: as for the A'-part, movement is A'-minimal (both subjects and objects can undergo pronoun-doubling), involves information-structural effects (definiteness/specificity), cannot bind anaphors from its landing site and reconstructs for principle C. Simultaneously, it shows A-properties in that it obviates WCO and is restricted to a local CP domain.

Focus extraction in Ndengeleko Scott, 2021b shows that focalization in Ndengeleko (Bantu) is restricted to nominals. She analyses the relevant constructions as the result of a [foc/n] probe on a Focus head right below the verb.

- (56) *Ni-m-pa-y-a* *ki-lyó* *Nadya*
 1SG.SM-1.OM-give-APPL-FV **7-food** *Nadya t*
 'I'm giving Nadya FOOD.' *Ndengeleko low focus* (Scott, 2021b: 9)

Scott, 2021b does not investigate other A'- or A-properties of these configurations.

Differential object marking Bárány, 2023 presents a typological investigation of differential object marking in Itelmen, Swahili, Tigrinya, and Zulu, arguing that in these languages, ϕ -agreement targeting an object is sensitive to an information-structural feature [δ]. He assumes that this is the effect of a composite [ϕ/δ] probe in the voice domain, triggering discourse-sensitive agreement. Since differential object marking does not involve movement of the goal, we cannot observe any other relevant A'- or A-properties of these configurations.

A'/A subjects Bošković, 2024 states that in some languages, there is a functional A'/A projection between CP and TP. He argues that this projection serves as landing-site for English subject wh-movement, quirky subjects, Germanic V2, restrictions in relativization (à la Keenan and Comrie, 1977), Defaka focalization, wh-movement, imperatives, CP subjects in Hong Kong Sign language, locative inversion, Singlish non-agreeing subjects, Japanese and Chinese subjects as well as *only* subjects. He points out some sporadic A'- and A-properties in all these configurations, however not enough to get a conclusive impression whether all of them could be subsumed under a mixed A'/A analysis. Further, his analysis is not based on a featural approach of the A'/A distinction but on a positional one: SpecCP is an A'-position, SpecTP and A-position and inbetween these two, there is a SpecA'/A position.

Brazilian Portuguese Interleaved Movement Kobayashi, 2020 investigates a Brazilian Portuguese configuration he terms *Interleaved Movement*, depicted in (57).

- (57) *Quais livros* *demor-aram* [*pra que a Ana lesse t*]
which books take.time-PL [for that the Ana read *t*]
 'Which books did it take time for Ana to read?' (Kobayashi, 2020: 13)

Such movement has A'-properties in that it is insensitive to CP boundaries and DP-interveners, triggers information-structural effects, and reconstructs for scope and variable binding; whereas at the same time it has A-properties in that it triggers ϕ -agreement on the matrix- and embedded verb and can bind a matrix anaphor from its landing site. Kobayashi, 2020 derives the A'/A distinction via structural positions, arguing that interleaved configuration involves an A' > A > A' movement

chain. In order to do so, he needs to relax the BIM and state that a A-movement can follow A'-movement, given that there is subsequent, terminal A'-movement step.

Complementizer Agreement Another form of composite [A'/A] probe might be found in West Germanic complementizer agreement (CA), where a C-head ϕ -agrees with a DP (*a.o.* Haegeman, 1993; Barbiers, Bennis, and De Vogelaer, 2005; Weiß, 2005; van Koppen, 2017).

- (58) *West Flemish complementizer agreement* (Carstens, 2003: 393)
- a. *Kpeinzen dan-k (ik) morgen goan.*
I-think that-I (I) tomorrow go
'I think that I'll go tomorrow.'
 - b. *Kpeinzen da-j (gie) morgen goat.*
I-think that-you (you) tomorrow go
'I think that you'll go tomorrow.'

Complementizer agreement is not attended by movement of the agreed-with DP, thus we cannot say much about the A'- and A-properties of such configurations.

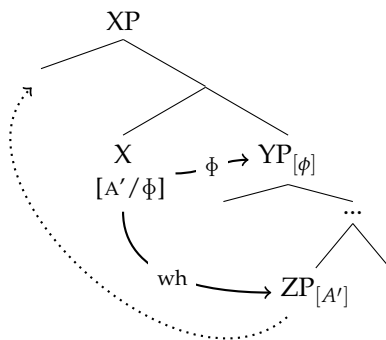
Bantu A'-extraction and agreement In many Bantu languages, A'-movement (wh-extraction, topicalization, relativization) triggers ϕ -agreement (Bokamba, 1981; Kinyalolo, 1991, Carstens, 2005; Henderson, 2006; Buell, Riedel, and van der Wal, 2011; Obata and Epstein, 2011; Van der Wal, 2022).

- (59) *Bikí bí-á-kás-íl-é bábo bikulu mwámi mu-mwílo?*
8what 8RM-ASP-give-ASP-FV 2that 2woman 1chief 18-3village
'What did the woman give the chief in the village?'
Kilega wh-movement (Kinyalolo, 1991: 21)

Kinyalolo, 1991; Carstens, 2005; Henderson, 2006 propose that in such constructions, ϕ bundles together with an [A'] probe on C; even though they do not label it this way, such an analysis basically corresponds to a composite [A'/A] probe. van Urk, 2015 points out that Bantu A'/A configurations pattern with Dinka in that they obviate WCO effects and trigger ϕ -agreement, whilst at the same time resembling A'-extraction.

Phase unlocking The last A'/A related topic is phase unlocking. In phase unlocking, a head ϕ -agrees with a phase in its c-commanding domain, thereby "unlocks" it and allows agreement to proceed into it, triggering movement of an embedded element out of it (Preminger, 2011). Phase unlocking has been proposed for long-distance movement out of embedded CP clauses (van Urk and Richards, 2015; Halpert, 2019; Branan, 2022; Lee and Yip, 2024), movement out of *v*P phases (Thivierge, 2021) and movement out of PPs (Branan, 2022). van Urk and Richards, 2015 and Branan, 2018 derive phase-unlocking from a composite probe [ϕ /A'] on a higher head. The [ϕ]-probe agrees with the whole phase (PP, CP, *v*P), thereby unlocks it and allows the [A'] probe to trigger subsequent movement of an embedded element.

(60) *Phase unlocking via an [A'/A] probe* (adapted from Branan, 2018: 411)



In phase unlocking, the two sub-parts of a composite probe ([A'] and [A]) act independently from each other; that is they find two different goals. Thereby, phase unlocking might involve a composite probe, but does not depict a full composite A'/A configuration in the sense relevant for this thesis. The configurations relevant here are such where the [A'/A] probe finds a single fitting goal, and conjointly triggers a movement operation; rendering a derivation with both A'- and A-properties. Although I am not aware of any account examining this in detail, we would expect that movement in phase unlocking behaves like a pure A'-derivation, since it is triggered by [A'] alone (after [\phi] unlocked the phase above it). Thus, phase unlocking is expected not to exhibit mixed A'/A properties and does not classify as a mixed derivation.¹⁶ I leave open for further research whether or how phase-unlocking might relates to other instances of composite probing (though see Branan, 2022 for a unified account of phase unlocking and syntactic ergativity).

2.5.8 Interim summary

This section presented a variety of mixed A'/A derivations, which have received composite probe analyses over the last decade of syntactic research. In 2.5.1-2.5.5 I listed the configurations relevant for the remainder of this thesis: i) wh-extraction, topicalization and focalization with A-properties, ii) passivization with A'-properties, iii) topic-subject mixtures, iv) long-distance A-movement (Hyperraising), and v) long-distance \phi-agreement. These configurations all show a combination of A'- and A-properties within one movement chain and thereby classify as composite A'/A derivations. Crucially, these derivations do not all depict the same mixture of A'- and A-properties; they exhibit different combinations of A' and A. The aim of this thesis is to present a framework that captures these different possibilities of A'/A mixtures (chapter 5) and present a syntax that predicts possible (and impossible) combinations (chapter 4). In subsection 2.5.6 and 2.5.7, I discussed configurations that might depict composite configurations, for an in-depth investigation of which the scope of this thesis is too narrow. Among these were syntactic ergativity, complementizer agreement, extraction in Bantu languages, and alike.

Most of the investigated configurations have received composite [A'/A] probe analyses. Unfortunately, there is large variety in how composite probes are applied,

¹⁶Phase unlocking might be an instance of last-resort independent probing; in chapter 4, section 4.10, I argue that in contexts where no fully fitting goal is found, composite probes can split up and probe for two independent goals.

what exact phenomena they aim to account for, which feature combinations are assumed, or where in the structure such probes occur. The next section 2.6 presents a systematic overview of several composite probe accounts, highlighting similarities as well as variation. Eventually, I conclude that there might be two kinds of composite [A'/A] probes; [A'/ ϕ] probes, usually applied to truly mixed movement dependencies, as listed in subsection 2.5.1-2.5.5 versus [A'/D] probes, often used to account for pure extraction restrictions, such as syntactic ergativity. In the rest of the thesis, I focus on the former type, [A'/ ϕ] probes. The subsequent section, 2.7 describes why [A'/A] probes allow us to most accurately describe mixed A'/A derivations, but also how they still need to be structured and analyzed in a more uniform fashion (as is the overall aim of this thesis).

2.6 Existing accounts: the composite A'/A chaos

Composite [A'/A] probes have been around for about the last ten years and have been widely used to account for all instances that neither conform to pure A'- nor A-movement. This section presents an overview of existing syntactic accounts involving composite [A'/A] probes, focusing on the variation as well as uniformities we find across approaches. I investigate four main properties of composite [A'/A] probes, present in most accounts: subsection 2.6.1 lists and compares which exact features might be involved in [A'/A] probes. In subsection 2.6.2, I summarize where in the functional spine composite probes might be located. Subsection 2.6.3 examines the possible origins of [A'/A] probes. Last, in subsection 2.6.4, I investigate the question whether [A'/A] probes are sensitive to partly fitting intervening goals. In the end of this section, I will resume to a subset of existing approaches, serving as the basis for my unified analysis in chapter 4.

In the recent years, composite [A'/A] probes have been extensively employed whenever a phenomenon does not straightforwardly classify as either A'- or A-movement. Researchers, however, have very different understandings of the exact implementation of composite probes: what movement chain a composite probe triggers, what feature combinations are allowed, how the probing process is restricted, what the inner probing architecture looks like, how and where in the structure such probes occur, whether composite probes are a parametric choice or the result of a derivational process, and whether composite probes exist instead of or additional to bare [A'] and [A] probes. I summarize the most prevalent existing analyses, focusing on i) the combination of features in composite probes, ii) the location of the composite probe in the structural spine, iii) the probing mechanism and probe architecture of composite probes (that usually ties to their (in)sensitivity to partly fitting goals) as well as iv) the emergence of composite probes, that is how they enter the derivation (as a parametric, language-specific option or through a derivational process). Most of the accounts discussed in this section concentrate on a single language, or phenomenon therein and do not have a bigger, cross-linguistic investigation in mind (with the exceptions of Keine and Zeijlstra, 2023; Branan and Erlewine, 2020, all comparing a small set of unrelated languages). Given the conceptual novelty of composite probing, the existing accounts often do not follow a uniform syntax and sometimes make different predictions and assumptions. We find some similarities in these predictions, however, there is also a fair amount of discrepancies across analyses. In the end of this section, I show that composite [A'/A] probes seem to fall into two types: such which consist of [A'/ ϕ] features are standardly used to account for movement chains with mixed A'/A properties, and on the other hand, such which

consist of $[A'/D]$ probes have a tendency to be used in accounts dealing with extraction restrictions. In the remainder of this thesis, I will focus on the former type, $[A'/\phi]$ probes. Table 2.13 summarizes the accounts under investigation, which I will walk through step by step in what follows, focusing on different aspects thereof. The table reads as follows: The first column indicates the reference, the second and third column which exact $[A]$ and $[A']$ features are employed in the composite probe. The fourth column shows on which head the $[A'/A]$ probe is located in the specific account and the fifth column whether researchers assume that the composite probe is sensitive to defective intervention (partly fitting goals) or not. A $\checkmark$ means that it is sensitive to defective intervention, an X means it is not. The next column shows in what kind of analysis the $[A'/A]$ probe is couched (e.g. an Interaction and Satisfaction framework; Deal, 2015). The last column indicates what the empirical focus of the study is, that is what construction/ language it has been tailor-made for.

Reference	$[A]$	$[A']$	Location	Defective Intervention	Analysis	Empirical focus
van Urk, 2015	ϕ	wh, rel, top	C, v	X	Multitasking, Best Match	extraction in Dinka
Longenbaugh, 2017	ϕ	A'	v	X	Multitasking	<i>tough</i> -movement
Branan, 2018; 2022	ϕ	A'	v, C	$\checkmark$	Contingent Probing	LBE, SE
Erlewine, 2018	D	foc	bundled CT	$\checkmark$	Head fusion	Pivot-only extraction in Toba Batak
Ostrove, 2018	ϕ	top	C	X		Pronoun doubling in Mixtec
Branan and Erlewine, 2020	D	wh, rel	C	$\checkmark$		Relativization in Turkish, Rejang, pivot-only, SE
Colley and Privoznov, 2020	ϕ	top	T	X		Passives in Khanty
Coon, Baier, and Levin, 2021	D	A'	C	$\checkmark$	Feature Gluttony	SE in Mayan
Mursell, 2021	ϕ	top, foc	$(v), C$	X	Feature Inheritance	LDA
Scott, 2021b	n	foc	low FocP	X/ $\checkmark$	conjunctive, disjunctive, independent INT+SAT	Focalization in Ndengeleko
Lohninger, Kovač, and Wurmbrand, 2022	A	A'	C	X/ $\checkmark$	conjunctive, dependent, independent probing	Hyperraising, LDA
Bárány, 2023	ϕ	δ	v	X/ $\checkmark$	varying SAT conditions	Differential object marking
Chen, 2023	ϕ	top, foc	PassP, v , low FocP/TopP	X	Multitasking, conjoint probing	BEI-passive, low topic/focus in Mandarin Chinese
Drummond, 2023	case	A'	C	X	Case-discrimination	SE in Nukuoro
Keine and Zeijlstra, 2023	D	δ	C	$\checkmark$	Defective intervention + leapfrogging	Dinka, Defaka, Indonesian extraction

TABLE 2.13: Summary of composite probe accounts

SE	= Syntactic Ergativity
LBE	= Left Branch Extraction
LDA	= Long-distance Agreement
INT+SAT	= Interaction + Satisfaction (Deal, 2015; 2020)

2.6.1 Feature combinations

The [A'] feature: wh, rel, top, foc, δ

All instances of [A'] features (wh, rel, top, foc, δ) have been used for the A'-part of composite probes; sometimes interchangeably and summarized as "A'", sometimes specifically as only one of them or a specific subset. It is not always the case that all [A'] features of a given language form composite probes; in Ndengeleko, for example, Scott, 2021b suggests that only a low Focus head carries a composite probe, thus only [foc] combines with an [A] feature. Similarly, Ostrove, 2018 suggests that in Mixtec pronoun doubling, only a [top] feature is involved. Comparable ideas can be found in Chen, 2023 (top, foc), Colley and Privoznov, 2020 (top), Bárány, 2023 (δ). Mursell, 2020; 2021 brings forward an interesting implicational hierarchy of [A'] probes in composite probing. He examines LDA configurations, which he argues are mediated by an [A'/A] probe on embedded C. He suggests that composite probes are formed along the extended left periphery (Rizzi, 1997) whereby an implicational hierarchy between [foc] and [top] arises: if [foc] can form a composite [foc/A] probe, then [top] can do so too, but not vice versa. He investigates LDA configurations in Hinuq, Innu-Aimûn, Khwarshi, Tsez, Turkish and Uyghur which all obey the implicational hierarchy; if a language allows LDA with focalized elements, it also allows it with topicalized elements, but not the other way around. This direction of analysis seems promising; unfortunately, nothing similar is mentioned in any other account on composite probing. Many of them investigate only one language or one configuration therein, thus cannot be used to further test the implicational hierarchy. From the data available to me, however, I have not encountered any counterexample to Mursell's generalization and will thus continue to assume that it exists. In contrast to a cartographic approach, I follow a feature geometry implementation, where hierarchy effects are encoded via a feature-geometrical organization, as can be found in, among others, Abels, 2012b and Aravind, 2017. van Urk, 2015, for example, clearly opts for the latter, whereas Mursell's account is better situated in a structurally split left periphery. In this thesis, I argue along the lines of Abels, 2012b van Urk, 2015, Aravind, 2017 that [A'] features are best organized as feature geometry on a C head (see also chapter 4, section ??); nothing, however, hinges on this specific assumption and with minor refinements of the analysis, a structural-cartographic approach could be maintained just as well. As a last note, there seems to be a tendency between probe locations and the choice of [A'] probe. Composite probes on heads below T (Voice, lower topic, etc.), seem to involve more topic- and focus-associated features, whereas C comes with [foc/top] features as well as [wh] and [rel].

The [A] feature: D versus ϕ

The A-part of composite probes is a bit more complex and roughly falls in two classes, [ϕ] and [D] (with slightly diverging versions in the form of [n] (Scott, 2021b) or case-discriminating [Case] (Drummond, 2023)). This variation arises from i) what phenomenon the [A'/A] probe is intended to derive, and related to that, ii) whether the A-part of the composite probe has an effect on the overall A'/A properties of the derivation, or is solely present to relativize the search space of an [A'] probe, as well

as iii) general disagreement about what features are involved in A-movement, and iv) general disagreement in what features are involved in case-licensing. Table 2.14 is the same table as above, but reorganized by the [A] features involved (indicated as boxed columns). On the top of the table are accounts employing [ϕ]-features, whilst on the lower part are accounts based on a [D] feature. The last three rows depict approaches which employ neither [ϕ] or [D], but other feature types ([n] or [case]) or remain vague about the exact [A] features involved.

Reference	[A]	[A']	Location	Defective Intervention	Analysis	Empirical focus
van Urk, 2015	ϕ	wh, rel, top	C, v	X	Multitasking, Best Match	extraction in Dinka
Longenbaugh, 2017	ϕ	A'	v	X	Multitasking	<i>tough</i> -movement
Branan, 2018; 2022	ϕ	A'	v, C	✓	Contingent Probing	LBE, SE
Ostrove, 2018	ϕ	top	C	X		Pronoun doubling in Mixtec
Colley and Privoznov, 2020	ϕ	top	T	X		Passives in Khanty
Mursell, 2021	ϕ	top, foc	(v), C	X	Feature Inheritance	LDA
Bárány, 2023	ϕ	δ	v	X/✓	varying SAT conditions	Differential object marking
Chen, 2023	ϕ	top, foc	PassP, v, low FocP/TopP	X	Multitasking, conjoint probing	BEI-passive, low topic/focus in Mandarin Chinese
Erlewine, 2018	D	foc	bundled CT	✓	Head fusion	Pivot-only extraction in Toba Batak
Branan and Erlewine, 2020	D	wh, rel	C	✓		Relativization in Turkish, Rejang, pivot-only, SE
Coon, Baier, and Levin, 2021	D	A'	C	✓	Feature Gluttony	SE in Mayan
Keine and Zeijlstra, 2023	D	δ	C	✓	Defective intervention + leapfrogging	Dinka, Defaka, Indonesian extraction
Scott, 2021b	n	foc	low FocP	X/✓	conjunctive, disjunctive, independent INT+SAT	Focalization in Ndengeleko
Drummond, 2023	case	A'	C	X	Case-discrimination	SE in Nukuoro
Lohninger, Kovač, and Wurmbrand, 2022	A	A'	C	X/✓	conjunctive, dependent, independent probing	Hyperraising, LDA

TABLE 2.14: A'- and [A] features in composite probe accounts

One tendency is that in accounts that employ ϕ -features, the A'-part often seems to be a [top/foc], whereas [D] tends to combine with [rel] and [wh] (note that this is only a tendency, and not the case for all analyses). The combination of [ϕ] and [top] does not really come as a surprise, given the broad research on topic-sensitive agreement that might relate to this (among others Lambrecht, 1981; Polinsky and

Potsdam, 2001; Branigan and MacKenzie, 2002; Dalrymple and Nikolaeva, 2005; Morimoto, 2006; Crasborn et al., 2009; Miyagawa, 2010; Kallulli, 2016; Alshamari, 2017; D'Alessandro, 2017; Ostrove, 2018; Mursell, 2021; Van der Wal, 2022; Bárány, 2023). Further, [ϕ] is usually used when there is an association with case-assignment of the composite probe or when movement induced by an [A'/A] probe triggers overt morphological agreement (van Urk, 2015; Longenbaugh, 2017; Colley and Privoznov, 2020; Chen, 2023).

[D]-features, on the other hand, seem to be prevalent in configurations where A'-extraction is restricted to a certain nominal, such as syntactic ergativity and relativization hierarchies (Branan and Erlewine, 2020; Coon, Baier, and Levin, 2021), or the pivot-only extraction restriction (Erlewine, 2018; Branan and Erlewine, 2020; Keine and Zeijlstra, 2023). As discussed in section 2.5, I do not include syntactic ergativity and relativization hierarchies or A'-extraction restrictions under the umbrella term "mixed A'/A derivations", as there is very little empirical evidence that they show a mixture of A'- and A-properties and are not just A'-movement restricted to the closest/ as specific goal.¹⁷¹⁸

Case Most analyses involve case-assignment in some way; van Urk, 2015 states that the specifier of a composite [A'/ ϕ] probe is a case-position and the element moving there receives unmarked case (although movement is not initiated by the nominal's need to be licensed). Similarly, Erlewine, 2018 suggests that Toba Batak pivots are attracted by a [foc/D] head, which licenses case in its specifier. Branan, 2018 ties left-branch extraction to case-discriminating agreement, thus an [A'/ ϕ] probe that is sensitive to a certain case value. Colley and Privoznov, 2020 state that a [top/ ϕ] probe assigns unmarked case to the nominal it attracts. Mursell, 2021 argues that the A-part of a composite probe can either be merged as [ϕ] or as [Case] feature, deriving long-distance agreement either via agreement or via case-assignment. In Drummond, 2023, the [A] probe is a case-discriminating feature (e.g. [ABS]), restricting A'-extraction to a specific case value. Coon, Baier, and Levin, 2021, Scott, 2021b, Keine and Zeijlstra, 2023 fully dissociate composite probing from case-licensing completely. In chapter 4, I will argue that case-licensing is not an inherent property of composite probes, but is the effect of an A-movement chain; an A-moved nominal can be case-licensed in its landing site. I will argue that not all [A'/A] probes automatically trigger A-movement—thus case-assignment does not necessarily correlate with all instances of composite probing.

2.6.2 Probe location

Depending on the account, composite probes have been located on different heads of the functional spine. Their most common location are C heads (van Urk, 2015; Branan, 2018; 2022; Erlewine, 2018; Ostrove, 2018; Branan and Erlewine, 2020; Coon, Baier, and Levin, 2021; Mursell, 2021; Lohninger, Kovač, and Wurmbrand, 2022; Drummond, 2023; Keine and Zeijlstra, 2023), followed by Voice or *v* heads (van Urk, 2015; Longenbaugh, 2017; Branan, 2018; 2022; Mursell, 2021; Bárány, 2023; Chen, 2023). In some accounts, [A'/A] probes occur on both C and Voice/*v*, in some only

¹⁷As for the Austronesian pivot-only extraction; I will analyse such cases on par with Dinka extraction restrictions, most likely triggered by a [ϕ] and not a [D] feature (see chapter 7).

¹⁸Note, however, Newman, 2023 points out that some of the A'-extraction cases discussed in Branan and Erlewine, 2020 in fact look like pure A-movement. In chapter 9 I present a brief idea of how extraction restrictions might be related to mixed A'/A constructions after all.

on one of the two. There does not seem to be a dependency between the two locations; composite probes can occur on either head, independent from each other (see also chapter 4, section 4.9). Last, there are some less common locations such as passive TP or PassP (Colley and Privoznov, 2020; Chen, 2023), or a low focus/topic head (Scott, 2021b; Chen, 2023). Table 2.16 summarizes these assumptions: on the top part are those accounts that locate [A'/A] on C, then those which locate it on both phasal C and *v*, and then such which employ other heads like PassP (extending the voice domain), or low focus/topic heads. Note that in this table, I summarize VoiceP and *v*P heads as *v*; in the remainder of this thesis I will build on a more complex voice domain, consisting of VoiceP and *v*P (see also chapter 3). There will, however, not be a distinction of whether Voice or *v* hosts [A'/A], thus they are conflated in the table below.

Reference	[A]	[A']	Location	Defective Intervention	Analysis	Empirical focus
Ostrove, 2018	∅	top	C	X		Pronoun doubling in Mixtec
Branan and Erlewine, 2020	D	wh, rel	C	✓		Relativization in Turkish, Rejang, pivot-only, SE
Coon, Baier, and Levin, 2021	D	A'	C	✓	Feature Gluttony	SE in Mayan
Lohninger, Kovač, and Wurmbrand, 2022	A	A'	C	X/✓	conjunctive, dependent, independent probing	Hyperraising, LDA
Drummond, 2023	case	A'	C	X	Case-discrimination	SE in Nukuoro
Keine and Zeijlstra, 2023	D	δ	C	✓	Defective intervention + leapfrogging	Dinka, Defaka, Indonesian extraction
Erlewine, 2018	D	foc	bundled CT	✓	Head fusion	Pivot-only extraction in Toba Batak
van Urk, 2015	∅	wh, rel, top	C, <i>v</i>	X	Multitasking, Best Match	extraction in Dinka
Branan, 2018; 2022	∅	A'	C, <i>v</i>	✓	Contingent Probing	LBE, SE
Mursell, 2021	∅	top, foc	C, (<i>v</i>)	X	Feature Inheritance	LDA
Longenbaugh, 2017	∅	A'	<i>v</i>	X	Multitasking	<i>tough</i> -movement
Bárány, 2023	∅	δ	<i>v</i>	X/✓	varying SAT conditions	Differential object marking
Colley and Privoznov, 2020	∅	top	T	X		Passives in Khanty
Chen, 2023	∅	top, foc	PassP, <i>v</i>, low FocP/ TopP	X	Multitasking, conjoint probing	BEI-passive, low topic/focus in Mandarin Chinese
Scott, 2021b	n	foc	low FocP	X/✓	conjunctive, disjunctive, independent INT+SAT	Focalization in Ndengeleko

TABLE 2.15: Locations of composite probes

There appears to be a tendency for probes on C to involve a [D] feature. I do not think that this is a relevant pattern, but rather that it results from the fact that accounts deriving A'-extraction restrictions necessarily locate their composite probes on C. Such composite probes often involve [D], as the sole purpose of the [A] feature is to restrict the [A'] probe to a certain (the closest) nominal. Thus, this tendency is only apparent; if we hide extraction-restriction accounts from the table, and look only at such which derive configurations with a more extensive mixture of A'- and A-properties, the impression changes. We now see that there is a more or less even distribution of [A'/ ϕ] probes on C, *v* and other heads.

Reference	[A]	[A']	Location	Defective Intervention	Analysis	Empirical focus
Ostrove, 2018	ϕ	top	C	X		Pronoun doubling in Mixtec
Lohninger, Kovač, and Wurmbrand, 2022	A	A'	C	X/✓	conjunctive, dependent, independent probing	Hyperraising, LDA
Keine and Zeijlstra, 2023	D	δ	C	✓	Defective intervention + leapfrogging	Dinka, Defaka, Indonesian extraction
van Urk, 2015	ϕ	wh, rel, top	C, <i>v</i>	X	Multitasking, Best Match	extraction in Dinka
Mursell, 2021	ϕ	top, foc	C, (<i>v</i>)	X	Feature Inheritance	LDA
Longenbaugh, 2017	ϕ	A'	<i>v</i>	X	Multitasking	<i>tough</i> -movement
Bárány, 2023	ϕ	δ	<i>v</i>	X/✓	varying SAT conditions	Differential object marking
Colley and Privoznov, 2020	ϕ	top	T	X		Passives in Khanty
Chen, 2023	ϕ	top, foc	PassP, <i>v</i> , low FocP/ TopP	X	Multitasking, conjoint probing	BEI-passive, low topic/focus in Mandarin Chinese
Scott, 2021b	n	foc	low FocP	X/✓	conjunctive, disjunctive, independent INT+SAT	Focalization in Ndengeleko

TABLE 2.16: Locations of composite probes

2.6.3 Emergence of composite probes

After looking at various possible locations of [A'/A] probes, the next question naturally is, how do composite [A'/A] probes end up on these heads? How do they enter the derivation? Are they base-merged as a parametric option of the language? Do they arise derivationally? Are there rules on which heads in which language and which derivations can carry them? There are, unfortunately, surprisingly few answers to these questions. Mursell, 2021, following Miyagawa, 2010, suggests that [A'/A] probes are the result of feature under-inheritance. Feature Inheritance (Chomsky, 2008) is the claim that [ϕ] features enter the derivation in CP (together with [A']) and are then inherited downwards to (finite) TP. Miyagawa, 2010 suggests that some languages simply do not inherit their [ϕ]-features downwards, thus both [ϕ] and [A'] remain on C. Mursell, 2021 adopts this claim for the formation of

composite probes and also extends it to under-inheritance from C to T, as well as from Voice/*v* to V. In Mursell's account, [A'/A] probes are a parametric choice; a language either inherits [ϕ] or does not. Most other accounts do not make explicit statements on how composite [A'/A] probes emerge, but implicitly seem to assume some sort of parametric distribution. This approach might be applicable to a subset of composite probing derivations, but most certainly cannot be true for all, since many languages use [A'/A] probes only very construction-specifically: Mandarin Chinese, for example, only involves them in certain passive constructions and low topics and foci, not in all A'-related derivations (Chen, 2023). Similarly, Colley and Privoznov, 2020 suggest that Khanty involves a composite probe only on passive T heads, not on T in general. The same is true for instances of Hyperraising, where [A'/A] probes on C always alternates with a "regular" A'-type C-head.

Erlewine, 2018 stands out in suggesting a derivational formation of composite probes: for Toba Batak, he argues that T carries an [A] probe and C an [A'] probe. The two heads can fuse to a bundled CT head, rendering a composite [A'/A] probe. They can also occur separately, depending on the configuration they are involved in. In Lohninger, Kovač, and Wurmbrand, 2022 we bring forward a similar idea for C and a higher relational head, Rel. C carries [A'], Rel carries [A], and they can occur separately or fused as Rel+C (A'/A).

To conclude, there are most likely different options for composite probes to enter the derivation; either as a parametric choice of feature under-inheritance, as a derivational (fusion) process, or in other, so far unnoticed ways. This matter is discussed again in chapter 4, section 4.11.

2.6.4 Minimality & probe architecture

The final striking difference between existing accounts are minimality requirements and sensitivity to defective intervention. As already mentioned earlier, minimality refers to the restriction on a probe to target the closest fitting goal, stated as the principles *Relativized Minimality* (Rizzi, 1990) and *Attract Closest* (Hornstein, 1999). For an [A'] probe, this is the closest A'-goal, for an [A] probe, this is the closest A-goal. For [A'/A] probes, it is not so clear how "closest goal" is defined. There are two possible answers to this question: i) the "closest goal" is the closest goal that carries both a fitting [A'] AND [A] feature; i.e., goals with only a subset of these features (e.g. a bare [A] goal) do not intervene and can be skipped; ii) the "closest goal" is the closest goal that carries at least a subset of fitting features, that is either a fitting [A'] OR [A] feature. Goals with one of these features (e.g. a bare [A] goal) count as "partial match" and cannot be skipped. This version of minimality is also labeled "defective intervention". The line of approaches following (i) argues that composite probes are not sensitive to defective intervention, the analyses adapting (ii) assume that [A'/A] probes can only look as far as the first partial match; only such derivations, where the closest goal is an A'/A goal succeed. A third line of argumentation states that composite probes may come with different probing mechanisms and that there are different types of [A'/A] probes. Some might be sensitive to defective intervention, whilst others are not. Table 2.17 summarizes whether accounts assume sensitivity to defective intervention or not. On top of the table are analyses which assume that [A'/A] is not sensitive to defective intervention, that means can skip a partially fitting goal in favor of a lower, better fitting one. Then follow accounts which assume that an [A'/A] probe is defective to intervention and can thereby not skip an intervening, bare ϕ-goal. At the bottom of the table are approaches which

suggest that there exist two types of composite probes; such which are sensitive to defective intervention and such which are not (indicated by X/✓).

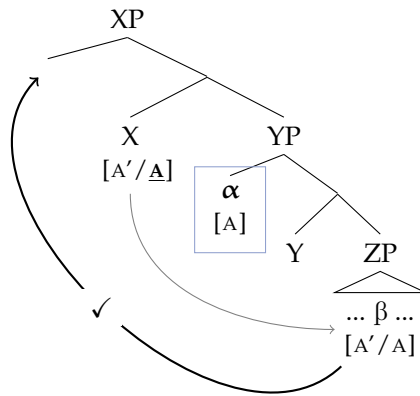
Reference	[A]	[A']	Location	Defective Intervention	Analysis	Empirical focus
van Urk, 2015	ϕ	wh, rel, top	C, v	X	Multitasking, Best Match	extraction in Dinka
Longenbaugh, 2017	ϕ	A'	v	X	Multitasking	<i>tough</i> -movement
Ostrove, 2018	ϕ	top	C	X		Pronoun doubling in Mixtec
Colley and Privoznov, 2020	ϕ	top	T	X		Passives in Khanty
Mursell, 2021	ϕ	top, foc	(v), C	X	Feature Inheritance	LDA
Chen, 2023	ϕ	top, foc	PassP, v , low FocP/TopP	X	Multitasking, conjoint probing	BEI-passive, low topic/focus in Mandarin Chinese
Drummond, 2023	case	A'	C	X	Case-discrimination	SE in Nukuoro
Branan, 2018; 2022	ϕ	A'	v , C	✓	Contingent Probing	LBE, SE
Erlewine, 2018	D	foc	bundled CT	✓	Head fusion	Pivot-only extraction in Toba Batak
Branan and Erlewine, 2020	D	wh, rel	C	✓		Relativization in Turkish, Rejang, pivot-only, SE
Coon, Baier, and Levin, 2021	D	A'	C	✓	Feature Gluttony	SE in Mayan
Keine and Zeijlstra, 2023	D	δ	C	✓	Defective intervention + leapfrogging	Dinka, Defaka, Indonesian extraction
Scott, 2021b	n	foc	low FocP	X/✓	conjunctive, disjunctive, independent INT+SAT	Focalization in Ndengeleko
Lohninger, Kovač, and Wurmbrand, 2022	A	A'	C	X/✓	conjunctive, dependent, independent probing	Hyperraising, LDA
Bárány, 2023	ϕ	δ	v	X/✓	varying SAT conditions	Differential object marking

TABLE 2.17: Defective Intervention of composite probes

No defective intervention

The first class of approaches assumes that there is no defective intervention in composite probing; an [A'/A] probe finds a fully fitting A'/A goal, irrespective of partially fitting matches in its way. Note that almost all of these accounts involve a [ϕ]-feature as their [A] probe (with the one exception of Drummond, 2023 who assumes a specific case feature as the A-part).

(61) No defective intervention

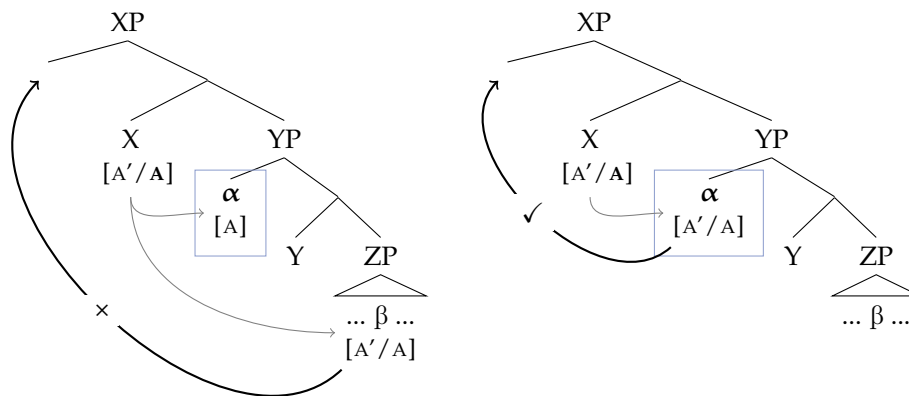


van Urk, 2015 labels this probing mechanism *Best Match* (also *Multitasking* in van Urk, 2015), stating that a composite probe optimally looks for the best match; that is, a fully fitting A'/A goal. This terminology and the corresponding assumptions are adopted by Longenbaugh, 2017 and Chen, 2023. Scott, 2021b and Bárány, 2023 derive the lack of defective intervention via Deal's 2015; 2020 *Interaction and Satisfaction* (INT+SAT) framework. Deal proposes that every bundle of probes comes with different conditions on what goals it interacts with and what goals it is satisfied by (originally this framework was designed for ϕ -feature bundles). Scott, 2021b extends INT+SAT to $[A'/A]$ probes, arguing that (at least some) composite $[A'/A]$ probes come as *conjunctive probes*, whose satisfaction condition is SAT: $[A]$ AND $[A']$. This means, they are only satisfied by a probe carrying both $[A]$ and $[A']$ features. They might interact with partially fitting goals in the way, but are not blocked by them for further probing.

Defective intervention

The second line of approaches argues that a composite $[A'/A]$ probe is sensitive to defective intervention. That means, it can only agree with a goal carrying both $[A']$ and $[A]$ features, but nevertheless, closer, partially fitting goals block further probing. Thus, only those derivations succeed where the closest goal is a full match.

(62) Defective intervention



Note that defective intervention accounts tend to involve a [D]-feature as their [A] probe (instead of a [ϕ]-feature). Also, almost all such accounts locate the composite probe on C; this is most likely the case as they often correlate with frameworks that do not take VoiceP to be phasal (e.g. Keine and Zeijlstra, 2023). Last, almost all accounts involving defective intervention are used to account for extraction restrictions patterns such as SE, LBE or relativization (setting aside Keine and Zeijlstra, 2023), which, as mentioned before, might not be an instance of a truly mixed derivation.

To my knowledge, there are three syntactic analyses on how to implement defective intervention:

Feature Gluttony Coon, Baier, and Levin, 2021, based on Coon and Keine, 2020, bring forward *Feature Gluttony*, stating that a probe fails when there is too much to agree with. They use this analysis to derive syntactic ergativity in Mayan languages. A composite probe is organized in a feature geometrical way and is sensitive to all goals fitting at least one part of this geometry. If the closest goal already satisfies all probe sub-parts, then the probe stops probing and agrees with this goal. If, however, the closest goal is only a partial match, then only one sub-part of the composite probe agrees with it. The rest of the probe keeps looking and if it finds another, better fitting match further down, it wants to agree with that one. This is not possible, since two agreement relations would have to be established (one with the closer partial match, one with the lower full match) and the derivation crashes. A feature gluttony framework is adopted by Keine and Zeijlstra, 2023 to account for Dinka, Indonesian and Defaka composite derivations. In chapter 4, section 4.9.3, I argue against Keine and Zeijlstra's account, and in favour of an analysis insensitive to defective intervention.

Contingent probes In order to explain phase unlocking and A'-extraction of the closest DP, Branan, 2022 suggests that complex probes are *contingent* on each other, thereby restrict each other's search domain. He divides an agreement procedure in a set of primitive operations, in which the output of the first one defines the input for the second one, shown below (taken from Branan, 2022: 10).

Probe(F,START:)	search the tree for F, and then do something else if F is found; START determines where the search starts; by default, at the root of the tree
Match(X,F)	check to see if X bears F, and then do something else
Copy(F,FP)	copy a feature or phrase to the root of the tree
End()	stop probing

In a composite probe, the [A] probe starts probing, finds a fitting goal, and copies its values. The goal then serves as the starting point (and respectively search domain) for the subsequently probing [A'] feature. Thus, only the closest DP can be the goal of a composite probe and further, the [A'] probe can only find this exact goal or a goal contained in it (which would lead to phase unlocking/ left branch extraction).

① Probe(,START:H)	→	Copy(Goal-[ϕ])		
		② Probe(A',START:Goal)	→	③ Copy(Goal)

TABLE 2.18: Contingent probing of [A'/A] (Branan, 2022: 11)

Disjunctive satisfaction The last way to implement defective intervention is via a *disjunctive satisfaction condition*, proposed in Scott, 2021a. This account, again, resorts on the INT+SAT framework (Deal, 2015; 2020). Scott, 2021a suggests that composite probes might come with the disjunctive satisfaction condition SAT: [A'] OR [A]. In such satisfaction conditions, the highest element with either A' or A satisfies the composite probe. In order to make sure that the probe eventually only establishes agreement with a full match, and not directly with the partial fit, Scott, 2021a has to postulate an additional restriction on the derivation. She assumes that additionally to the composite probe, there is an A'-specific [EPP] on the probing head that only moves A'-elements. Thus, if the probe finds a pure A-element, its satisfaction condition is in principle met, but since its [EPP] is specified for A', it cannot attract such a probe; the derivation crashes. Bárány, 2023 brings forward a slightly modified version of disjunctive probing: like Scott, 2021a, he states that such probes come with the satisfaction condition SAT: [A'] OR [A], but, additionally to that, exhibit an interaction condition INT: [A'] AND [A]. In his account, interaction conditions are obligatory, thus the goal needs to meet them in order to serve as a match.

Different kinds of composite probes

Last, some accounts (Scott, 2021b; 2021; Lohninger, Kovač, and Wurmbrand, 2022; Bárány, 2023) propose that composite probes can come in different forms, defined by their probing mechanism and the resulting (in-)sensitivity to defective intervention. Both conjunctive (insensitive to defective intervention) and disjunctive (sensitive to defective intervention) probes exist; languages can come with either one of them. None of these accounts mentions where this split might stem from, that is how a language or configuration "decides" whether its [A'/A] probe is conjunctive or disjunctive. What might be a promising path is tying this difference to the featural make-up of the probes (e.g. [D] vs. [ϕ])—however, none of the existing accounts does so.

Further, Scott, 2021b; 2021; Lohninger, Kovač, and Wurmbrand, 2022; Lohninger and Yip, 2023 propose that additional to conjunctive and disjunctive probing, there is *independent* probing. In an independent [A'/A] probe, the two features (A' and A) can establish agreement relations with two separate goals, triggering movement of two different elements. Scott, 2021b proposes an interesting implementation of independent probing in terms of cyclic agreement (along the lines of Rezac, 2003; Béjar and Rezac, 2003): a head X carries two features, [A] and [A']. First, one of the two probes for a goal and attracts it to its specifier. Then, the head re-projects and the second probe probes; via re-projection, the goal that has been attracted by the first round of probing is now in the second goal's search space. If this probe carries both fitting features, the second probe agrees with it; if not, the second probe establishes agreement with another goal.

A related but idea can be found in van Urk, 2015 who suggests that as a last-resort option, a composite probe can split up its features and attract two independent goals. In chapter 4, section 4.10, I present implement independent probing in my analysis, but not as an alternative to composite probes but as a language-specific last-resort option for situations where no fully fitting goal can be found.

2.6.5 Conclusion

To conclude, I investigated the traditional A'/A distinction as well as various exceptions to it. I suggested that the A'/A distinction is a predictive syntactic tool that

should not be ignored in languages with mixed derivations; however, it needs to be refined in order to account for them. I further presented a featural implementation of the A'/A distinction (opposed to a positional one) which allows for [A'/A] feature bundles, termed composite probes. Such feature bundles serve as a useful tool when accounting for mixed derivations and have been used extensively in the recent years. This soon led to a seemingly anything-goes syntax of movement chains that has been criticized in various ways. One of the aims of this thesis is to counteract this point of critique by pointing out systematic patterns of composite A'/A derivations. In this section I compared existing accounts of composite probes which show quite significant variation with respect to i) the featural make-up of the probe, ii) its location, iii) its sensitivity to defective intervention and how this is accounted for, and iv) whether there is an explicit statement about how composite probes enter the derivation. The inconsistencies across analyses most likely result from the fact that they try to explain very different constructions, ranging from mere A'-extraction restrictions (like syntactic ergativity or restrictions in relativization), via A'-extraction with true A-properties, to unusual forms of passivization, raising and agreement. There seem to be some uniform conclusions across analyses, though they should probably rather be perceived as tendencies: composite probes involving [D] as their [A] feature tend to be located on C, often are sensitive to defective intervention and used to account for A'-extraction restrictions. Composite probes involving [ϕ] seem to be located on a wider range of heads in the structure (e.g. C, Voice, T), are often not sensitive to defective intervention and are used in accounts that specifically describe the quality of movement chain in terms of its A'- and A-qualities, rather than sole extraction restrictions to a specific element. Table 2.19 summarizes the two kinds of accounts.

[A]	[A']	Location	Defective Intervention	Analyses	Empirical focus	Reference
[D]	[A']	C	✓	Feature Glut-tony; Contingent probing; Disjunctive Satisfaction	A'-extraction restrictions (syntact. erg., relativization restrictions, pivot-only)	Erlewine, 2018; Branen and Erlewine, 2020; Coon, Baier, and Levin, 2021; Scott, 2021b; Keine and Zeijlstra, 2023 (Branen, 2018; Branen, 2022)
[ϕ]	[A']	C, v, T	×	Multitasking; Best Match; Conjunctive satisfaction	A'-mvt w. A-properties, promotion to pivot, pronoun doubling, A'-like passives, Hyperraising, LDA, tough-mvt	van Urk, 2015; Longenbaugh, 2017; Ostrove, 2018; Colley and Privoznov, 2020; Mursell, 2021; Scott, 2021b; Lohninger, Kovač, and Wurmbbrand, 2022; Chen, 2023

TABLE 2.19: Tendencies in composite probe analyses

When it comes to the movement chain involved, there is no conclusive picture arising from the accounts presented. Some of them refer to "composite A'/A movement" (van Urk, 2015; Longenbaugh, 2017; Chen, 2023), however, no one specifies in what way composite A'/A movement could be implemented semantically, whether such movement shows a fixed distribution of A'/A properties or how it behaves with respect to the ban on improper movement. This leads to composite probes and

composite movement becoming something of a magic syntactic tool: it seems as if they can do and allow anything. In this thesis I aim to counteract this anything-goes syntax, derive a uniform syntax for (some) of the composite probes under discussion and show that movement itself might not be composite after all.

2.7 The aim of this thesis & why we need composite $[A'/A]$ probes

This thesis presents a comparative investigation of properly mixed A'/A configurations, that is such which are usually analyzed as involving an $[A'/\phi]$ probe in table 2.19 and simultaneously exhibit A' - and A -movement properties. In this study, I do not take into account A' -extraction restrictions (usually derived by $[A'/D]$), since to my current knowledge, they do not involve a true mixture of A'/A properties in their movement chain; rather, they often seem to be sole A' -extraction sensitive to the closest DP or the DP with unmarked case. The configurations I investigate are the ones I described in the beginning of section 2.5: Dinka and Mandarin Chinese A' -movement with A -properties, Mandarin Chinese and Khanty passives with A' -properties, topic-subject mixtures in Austronesian, as well as A -movement and ϕ -agreement across a CP boundary (Hyperraising and long-distance agreement).

In this section, I investigate how a featural implementation of the A'/A distinction (and further, the theoretical option for composite $[A'/A]$ probes) may account for the empirical landscape of composite derivations we find. My focus lies on comparing cross-linguistic instances of composite derivations, where we find uniformity therein and where variation. As we saw in section 2.5, composite derivations come with different mixtures of A' - and A -properties. In this section, I argue that a composite probe approach is able to capture and predict different mixtures, whereas a positional approach has a harder time doing so. The goal of this thesis is to develop a syntax for composite $[A'/\phi]$ probes that is both flexible enough to capture variation as well as rigid enough to not predict unattested combinations. My arguments in favour of a featural implementation of the A'/A distinction build strongly on the systematic patterns we find in composite configurations (discussed in detail in chapter 5); such patterns become visible only from a comparative perspective that takes into account both mixed as well as bare derivations. With bare derivations, I mean constructions that pattern with straightforwardly with either A' - or A -movement. This thesis is the first comparative investigation of composite A'/A derivations across natural language.

2.7.1 Composite probes versus composite positions

One of the main discussions about the A'/A distinction is whether it ties to structural positions or movement inducing features. Positional approaches suggests that the distinct A' - and A -properties result from different landing sites; A' -movement lands higher in the structural spine (in CP) whereas A -movement targets thematic positions and the inflectional domain. A featural approach ties the A'/A distinction solely to the features involved in the movement process: $[A]$ features like $[\phi]$ trigger A -movement whereas $[A']$ features like $[wh]$, $[top]$, $[foc]$ or $[rel]$ trigger A' -movement; it is irrelevant on which functional heads these features are located. van Urk, 2015 takes the existence of composite A'/A derivations in Dinka as an argument for a featural implementation of movement: two movement-inducing probes may combine on a single head, and thereby trigger a mixed A'/A movement chain.

I extend this argument and suggest that the existence of a single composite A'/A derivation/ language is not yet a full argument against a positional account; we could still assume that Dinka involves a fused projection CP+TP, which serves as a landing site for mixed A'/A movement. If we, however, take a step further and compare multiple composite A'/A derivations from different languages, we see that a positional account is too restricted in what it can predict; composite derivations exhibit different mixtures of A'- and A-properties. A positional approach may be able to account for the pure existence of mixed A'/A movement, however, it has difficulties explaining how different A'/A mixtures come about. This section (and further, this whole thesis) shows how composite [A'/A] probes might be able to predict different A'/A mixtures and thereby support a featural implementation of movement.

As we saw so far, a binary English-based A'/A distinction is simply too coarse to account for all movement phenomena we find in natural language. There is a multitude of empirical configurations that exhibit mixed A'/A properties and thereby challenge a strict A'/A distinction as a universal property. There are three possible ways of how we can deal with mixed configurations syntactically: i) letting go of the A'/A distinction as a possible language universal, ii) compressing mixed configurations into a positional account, iii) deriving mixed configurations via composite [A'/A] probes. After arguing against i) and ii), I will show that only iii) is able to make fine-grained predictions about the various (im)possible mixtures of A'- and A-properties.

Option 1: the A'/A movement distinction is not universal. The first, and most unsatisfying option would be to let go of the A'/A distinction in these languages altogether. We could state that movement chains therein simply do not pattern with what we know from other languages (like English) but form their own class. This is problematic in two respects: empirically, composite A'/A constructions often only constitute a subset of possible movement configurations found in a single language. For example, Mandarin Chinese BEI passives may exhibit A'/A properties, but Mandarin Chinese simultaneously allow movement chains that classify as pure A'-movement, depicting solely A'-properties (see Liu, 2024). Under the assumption that some languages simply lack a distinction into A- and A'-movement, there would be no way to syntactically describe the differences between movement chains within a single language, such as Mandarin Chinese. Conceptually, giving up the A'/A distinction means losing a syntactic tool to describe movement chains, one we optimally do not want to get rid of. The A'/A distinction in many ways serves as a tool of generative grammar; assuming that in natural language, movement chains fundamentally fall into two types, allows us to use this knowledge when investigating new languages. If we toss the A'/A distinction as a core grammatical phenomenon, we cannot employ it anymore when examining movement phenomena in unknown languages. The A'/A distinction thereby becomes a descriptive report of English and related languages but loses all of its predictive character for other languages. Thus, optimally, we would like to keep the A'/A distinction (in some form) as a part of generative grammar.

Option 2: positional approaches to composite derivations. Another way of how we can deal with mixed A'/A configurations is via a positional A'/A account. If A'-properties tie to the CP domain whereas A-properties tie to thematic positions

and the inflectional domain, then positional accounts need to find a way of combining two positions. There are various approaches of how to do so: one may resort to i) multiple subsequent movement chains, and/or getting rid of the BIM (e.g. Kobayashi, 2020), ii) high base-generation and co-indexation with operator movement (e.g. for *tough* constructions in Chomsky, 1977; 1981; Browning, 1987; Heycock, 1991; Rezac, 2006; Keine and Poole, 2017 or for Mandarin Chinese BEI passives in Ting, 1995; Huang, 1999; Tang, 2001; Huang, Li, and Li, 2009; Feng, 2012; Bruening and Tran, 2015), or iii) creation of additional mixed projections (e.g. Bošković, 2024 adding and A'/AP between CP and TP). At first sight, such accounts are not more or less stipulative than composite probing accounts. However, one disadvantage of positional accounts is that they do not straightforwardly allow us to make predictions about the exact mixture of A'/A properties in composite derivations. If we, for example, assume an additional A'/A phrase between CP and TP (à la Bošković, 2024), we might predict that movement to this position has mixed A'/A properties—but we cannot say anything about the exact mixture of the A' - and A -properties (and how it comes about). If composite derivations would exhibit a uniform distribution of A' - and A -properties, this would not be a problem. However, as we saw in section 2.5, this is not the case: composite A'/A derivations come with various kinds of A'/A mixtures. In a positional account, it is difficult to precisely predict (and restrict) which mixtures are possible and which are unattested. Note that I do not argue against all positional accounts in general; I do assume that there are cases of high base-generation and co-indexed null operators; for example, I think that this is the most adequate analysis for *tough*-movement, along the lines of Chomsky, 1977; 1981; Browning, 1987; Heycock, 1991; Rezac, 2006; Keine and Poole, 2017. However, I argue that in some cases, namely the configurations under discussion in this thesis, a composite probe analysis makes the better predictions than a positional analysis.

Option 3: a featural approach to composite derivations. The last option, and the one I will opt for, is a featural implementation of the A'/A distinction. A featural approach allows for A'/A feature bundles (composite probes), triggering a single movement chain with both A' - and A -properties (van Urk, 2015). There are several advantages of a featural account. On the one hand, a featural approach to the A'/A distinction does not require us to eliminate the A'/A distinction completely. Rather, it allows us to relativize it and makes it possible to apply it to languages in which movement does not strictly classify as type A' or A . On the other hand, a featural approach enables us to make fine-grained distinctions of the A'/A distribution in composite derivations; we can examine the exact features involved in a (composite or bare) probe, the probe's location in the structure, possible co-occurrences of composite and bare probes as well as differences in their probing behavior and architecture. The multitude of adjustable parameters a featural approach comes with allows us to capture fine-grained distinctions in movement operations—a syntactic accuracy a positional account lacks.

One may suggest that a good reason for a positional account is to not allow for the concept of "mixed A'/A movement". Such movement chains seem to be both unpredictable and difficult to implement in certain syntactic theories. I will show that even in composite probing environments, the distinction between A' - and A -movement is upheld. I reach this conclusion by comparing the mixtures of A' - and A -properties in composite derivations across languages and show that the arising patterns are by no means unsystematic; rather, A'/A properties pattern in very foreseeable ways. Some properties always cluster together; I argue that these are the

ones actually tracking the movement chain, which is either of type A or A'. This means that only a subset of the "classical" A'/A distinguishing properties tie to the movement chain itself, whereas others root elsewhere and can be subject to variation. The main contribution of this thesis will be that the classical A'/A distinction is not a binary split but is determined by three syntactic factors, all of which might vary language- and construction-specifically: i) the actual movement chain (A or A'); I argue there is no such thing as "mixed movement"; even composite [A'/A] probes can only trigger either A- or A'-movement. ii) The featural make-up of the movement-inducing probe; a probe can come as pure [A], pure [A'] or composite [A'/A] probe. iii) The location of a probe in the functional sequence: if a movement-inducing probe is located on a phasal head, it will allow movement out of the respective phase – irrespective of whether this movement is A- or A'-movement. There are several combinatorial options for (i-iii); the English A'/A distinction is only one possibility out of many.

i. movement chain: A' or A	$\Rightarrow$ WCO, PGs, feeding subsequent A-movement, (reconstruction effects)
ii. probing head: [A'], [A] or [A'/A]	$\Rightarrow$ restriction to nominals, minimality, information-structural effects, Φ /case
iii. location of probe: C, T, Voice	$\Rightarrow$ can cross CP, successive-cyclic movement

TABLE 2.20: A tripartite A'/A distinction

The tripartite, feature-based system in table 2.20 is able to account for the exact A'/A mixtures of composite derivations, whilst simultaneously predicting which combinations of A'/A properties are impossible. Further, such system does not require us to discard the A'/A movement distinction as a possible language universal, not even in composite derivations. I will show that quite the contrary is the case: composite A'/A configurations allow us to refine our tests and classifications as they show which A'/A properties consistently cluster together, and which do not.

Only a featural implementation of the A'/A distinction allows us to go in this direction; a positional account is not be able to implement the tripartite system in table 2.20 – and without these three factors as a disentangling tool, the patterns in [A'/A] probing are not detectable; or at least appear to be randomly distributed. Further, as this thesis argues, we need to combine a featural perception with a comparative perspective on the A'/A distinction. Only then are we able to disentangle where there is systematicity in the A'/A distinction, and where there can be variation. Last, only a featural approach allows for composite A'/A derivations to occur very construction-specifically and co-exist with bare A'- and A-derivations within a single language. Take for example a language X, where a specific configuration depicts mixed A'/A properties whereas other configuration follow the classical A'/A split. Such behavior is impossible to account for in a positional account, but falls straightforwardly from a featural one: A'/A feature bundles can arise as an effect of head movement, fusion, under-inheritance or alike and thereby can occur very construction-specifically.

Put together, a featural implementation allows to account for i) the existence of composite A'/A configurations in the first place, ii) the fact that such configurations do not necessarily have repercussions on the A'/A behavior of other configurations in the same language and iii) a fine-grained investigation of the triggering factors

behind the classical A'/A distinction. A positional account is less predictive with respect to all three of these factors. Crucially, this becomes visible only from a comparative perspective: when comparing composite derivations with bare configurations, we see that certain properties cluster together whereas others are variable. This is not visible when only investigating a single language or construction therein.

2.7.2 The gap this thesis fills

This thesis presents a comparative investigation of composite A'/A derivations. My main goal is to investigate whether $[A'/\phi]$ probes cross-linguistically can be subsumed under a uniform syntax and further, whether the movement they trigger exhibits a systematic or random mixture of A' - and A -properties. So far, neither of these questions have been examined systematically in any of the works on composite probes, nor does there exist a cross-linguistic investigation of mixed A'/A dependencies. I will show that only a comparative perspective on both composite and non-composite (termed "bare" A' - or A -) movement operations allows us to see patterns across configurations and reveals systematicity in unrelated languages. I argue in favour of a uniform syntax of composite $[A'/\phi]$ probes, based on the systematic patterns in the A'/A derivations they provoke. Chapter 4 presents the syntactic analysis, consisting of roughly four ingredients: i) $[A'/\phi]$ is not sensitive to defective intervention, ii) $[A'/\phi]$ can trigger two kinds of movement, A or A' , depending on which of its features is merged as a strong, movement inducing probe, iii) $[A'/\phi]$ probes can occur on different heads, primarily on C and Voice. The distribution of composite probes in the clausal spine is not necessarily parametrized, that is, they can be located only on C , only on Voice or on both, depending on the specific language and derivation. iv) Composite probes are usually the outcome of derivational processes like head- or phrase fusion. Thereby, they are less economical than bare A' - and $[A]$ probes and thus much less common in natural languages. In chapter 5, I investigate composite A'/A derivations from a comparative perspective, pointing out that, even if the exact A'/A mixtures vary, there are detectable patterns and clusters of certain properties. Composite configurations do not exhibit a mix-and-match pattern; they are highly systematic in which A'/A combinations are allowed, and which are prohibited. This thesis is the first work that highlights these patterns. I account for the empirical findings with the syntax developed in chapter 4, resulting in the following conclusion: the possible combinations of A' - and A -properties in composite derivations are best captured in a tripartite system of the A'/A distinction, where the commonly known A'/A properties not all tie to the movement chain itself. Rather, they track three independent syntactic factors: i) the actual movement chain (A' or A), ii) the featural makeup of the probing head ($[A]$, $[A']$ or $[A'/A]$) and iii) the location of the probe in the functional spine. In natural language, i)-iii) can combine in various ways, resulting in different combinations of A' - and A -properties. Crucially, the resulting clusters of properties are not random, but follow strictly predetermined options. Tying A'/A properties to factors i)-iii) allows for a finer-grained definition of the A'/A distinction, termed the language-specific *A'/A signature*. The *A'/A signature* is a fine-grained tool that allows us to describe mixed A'/A derivations in a systematic, yet more detailed way than the traditional A'/A distinction. Further, this thesis shows that the English A'/A split is only one possible A'/A signature out of many; hence, the *A'/A signature* shifts our perception from English as the default to English as one incidental combination.

Chapter 3

Syntactic Preliminaries

This chapter discusses some syntactic preliminaries of the thesis; particularly those which are subject to discussion in a broader context. In general, the thesis is set in a minimalist framework of generative grammar, in which phrasal movement is established via agreement; that is via probe-goal relations between functional heads and phrasal goals. This chapter consists of three topics: in section 3.1, I discuss the trigger for A-movement. I assume that A-movement is induced by a [ϕ]-feature that is merged with a movement-inducing sub-feature [EPP]. The section investigates this claim in detail and discusses the relationship between A-movement, case (abstract and morphological) and ϕ -agreement. I suggest that the three are to some degree independent operations (since we find mismatches between all of them) but often coincide on the same element. The relevant claims will be that A-movement is not movement for case-licensing but movement contingent on ϕ -agreement. I proceed with a discussion about CP and VoiceP phasality in section 3.2. The thesis is set in a framework in which both CP and VoiceP depict spellout phases and all movement (A and A') must proceed through their left edges. I suggest that this is true for all instances of Voice, even for unaccusatives and passives. Further, I assume that all movement proceeds successive-cyclically through the phase-edges of VoiceP and CP and both terminal as well as intermediate movement are triggered by probing heads. Last, I conclude by briefly presenting accounts on the split voice domain and extended left periphery and how they relate to this thesis. In the last section, 3.4, I present a list of the languages discussed in this thesis, what broader language family they come from and which specific construction I investigate therein.

3.1 A-movement, ϕ -agreement and case

So far, I have not been explicit about the relationship between A-movement, case assignment, and ϕ -agreement. Here I propose that the three are in principle independent mechanisms but converge in many languages on the same element. That they are not facets of one and the same derivation is visible from mismatches between all three of them; this section aims to highlight that (but also suggest why in many languages and constructions, they appear to be sides of the same coin). The discussions on case theory, A-movement and ϕ -agreement are and ever have been very vivid. In this short summary I do not justice on the various accounts that are out there and most likely, my approach raises several more questions than it answers or puts forwards issues I am not aware of (yet). The primary aim of this section is to explain the empirical observation that whenever a movement chain seems to be of type A, it has repercussions on case-assignment. Simultaneously, a large part of this thesis is concerned with constructions in which A-movement seems not to be movement

FOR case (e.g. Hyperraising, Dinka promotion to pivot) but appears to happen independently. Hence, I need a theory in which case-assignment tracks A-movement but A-movement can happen without the need for case-licensing. Further, if we assume that A-movement is movement contingent on a $[\phi]$ probe, we need to answer how ϕ -agreement relates to this all.

In short, I assume that A-movement is triggered by a structural feature, name it [EPP], which is merged as sub-feature of $[\phi]$ (but may occur independently as last-resort option). An A-movement inducing feature is strictly A-minimal: it may only target the closest nominal. Next, $[\phi]$ -agreement is an Agree relationship between a functional head and a ϕ -goal. It is independent of A-movement and is not necessarily strictly A-minimal; it may have language-specific restrictions, such as a restriction to unmarked morphological case, a specific ϕ -value or alike which allows it to skip a nominal in its way. As for case, I assume a split into nominal licensing and morphological case-assignment. Abstract nominal licensing is what needs to happen to all nominals in the course of a derivation in order for the derivation to succeed. I assume that nominal licensing is a positional operation, tied to specific positions in the functional spine (e.g. thematic positions and TP). When necessary, nominal licensing can happen via post-syntactic processes like verbal adjacency. Morphological case assignment is derived a post-syntactic process (the dependent case algorithm) and operates on arguments in A-positions: these are arguments in their thematic or positions arguments have A-moved too.

(1) *Assumptions for this thesis*

- a. **A-movement = [EPP] contingent on $[\phi]$, notated as $[\bullet\phi\bullet]$**
 - i) strictly A-minimal
 - ii) $[\phi]$ and [EPP] may split up if the closest DP is not a suitable ϕ -goal
- b. **ϕ -agreement = $[\phi]$**
 - i) does not per se trigger movement
 - ii) may have language specific restrictions, thereby is not strictly A-minimal
- c. **Nominal licensing = in structural positions**
 - i) not necessarily a trigger for A-movement
 - ii) happens in certain structural positions or via last-resort mechanisms (e.g. verbal adjacency)
- d. **Morphological case = dependent case**
 - i) established post-syntactically
 - ii) takes as input nominals in A-positions

I suggest that the four must, to some degree, be perceived as independent mechanisms based on the fact that there exist mismatches between all of them. Hence, they cannot simply be different aspects of one and the same operation. As a consequence, I argue against a set of widely-accepted assumptions: I do not take $[\phi]$ and [Case] to be two sides of the same coin, I assume that no such thing as an Activity Condition exists, and I suggest that A-movement may happen independently of a nominal's need for licensing.¹

The section is structured as follows: I first give a short overview of case-theory and how/why it often assumed to tie to ϕ -agreement and A-movement. After that, I present mismatches between the three, showing that they cannot all be different sides of the same operation. Last, I present how I in this thesis handle the four

¹I am aware that this is not the canonical understanding of things. Nothing about the rest of my analysis crucially hinges on this implementation; the only thing we might lose is that case and ϕ -agreement may be listed as two separate properties of the A'/A signature.

operations (A-movement, ϕ -agreement, abstract and morphological case) as being in principle separate from each other but often converging for economy reasons.

A short overview In many traditional theories about movement, A-movement is tightly connected to case, or, is in fact movement FOR case (Chomsky, 1981; 1986; Vergnaud, 1988). The standard analysis for English A-movement, for example, is that a nominal moves because it cannot be case-licensed in its base-position. A passive verb, for example, cannot assign accusative case (since it does not assign an agent θ -role: *Burzio's generalization*, Burzio, 1981) and therefore the internal argument has to move to SpecTP to be case-licensed. The same goes for raising to subject configurations like *David seems to be a cool guy*; non-finite T in English cannot assign case and therefore the embedded subject, *David*, needs to move to the matrix SpecTP of *seem* where it can receive nominative case. These requirements are standardly formulated as the *Case filter* (Chomsky, 1981) which requires all nominal arguments within a derivation to be case-assigned/ licensed, otherwise the derivation crashes. With the *Minimalist program* (Chomsky, 2001; Chomsky, 2008), theories started to view case-assignment more as a form of feature valuation (agreement), also referred to as *nominal licensing*. Every nominal enters the derivation with an unvalued Case feature [uCase] and needs to be licensed via agreement with a head that bears the a fitting feature [Case]. The need to value [uCase] may trigger a nominal to move into the proximity of a head with [Case]. This is how A-movement is often explained: A-movement is movement driven by the nominal's need to agree with a [Case] head to be licensed. Under this perception, the distribution of nominals within the syntactic structure is explained by the [Case] properties of functional heads. In very simple (English-based) terms, this means that an object is licensed by [Case] in the complement position of V, and a subject is licensed by [Case] on T; either in its specifier or via a form of in-situ agreement with T. What is problematic about this assumption is that there are several mismatches between what case value a nominal is expected to get and the morphological case value it actually comes with. The most prominent example are Icelandic quirky subjects, where subject is expected to receive unmarked nominative case but it does not; it comes with an oblique case (accusative or dative) whereas the object is nominative marked. Quirky subjects behave like subjects in any other way: they move to SpecTP and pass several subjecthood tests like control, imperatives, or reflexive binding (see Zaenen, Maling, and Thráinsson, 1985 for an extensive discussion). Thus, quirky subjects depict quite a problem for theories that assume that a nominal A-moves to SpecTP for unmarked case.

(2) *Icelandic quirky subjects* [Sigurðsson, 2004]

- a. *Hana grunar að hann fari*
her.ACC suspects that he.NOM leaves
 'She suspects that he will leave.'
- b. *Henni líkuðu hestarnir*
her.DAT liked horses.the.NOM
 'She liked the horses.'

Related problems arise for default case marking (e.g. German, Greek, Russian, Arabic, and even English; Schütze, 2001), case-stacking (e.g. Korean, Japanese or Amis; Yoon, 2004; Chen, 2018) or case-preservation under A-movement (e.g. Hindi; Keine, 2018).

3.1.1 A complicated triangle

I will now briefly discuss some common assumptions about abstract and morphological case, ϕ -agreement and A-movement, how they relate to each other and why they are sometimes assumed to be sides of the same coin (or not). In the next section I show mismatches between all three of them, arguing that they are not strictly dependent on each other

Abstract and morphological case Based on the mismatches between the theory of case-assignment and actual morphological case-assignment, morphology and syntax started to differentiate between the underlying syntactic mechanism of nominal licensing and the overt morphological case value: the two-way split into abstract Case and morphological case was born. Abstract Case is nominal licensing that is done in syntax by (agreement with) functional heads, whilst the actual morphological case values on nominals are defined configurationally (and post-syntactically). The most prominent of these frameworks is the *Dependent Case Algorithm* (Marantz, 2000), in which morphological case marking merely depicts in what hierarchical relationships two nominals stand. This means, morphological case assignment takes as input a finished derivation (after A-movement might have happened) and solely marks the relationship between two arguments: in nominative-accusative languages, the lower argument is marked with dependent case (accusative), whereas the higher one is expressed as unmarked. In ergative languages, it is the other way around, the higher argument is marked with dependent case (ergative), whereas the lower nominal is expressed as unmarked (absolutive). Inherent case, (like datives or quirky case) is assigned independently. Related ideas can be found in a variety of accounts, see among others Zaenen, Maling, and Thráinsson, 1985; Yip, Maling, and Jackendoff, 1987; Harley, 1995; Marantz, 2000; Haeberli, 2003; McFadden, 2004; 2009; Landau, 2006; Bobaljik, 2008; Sigurðsson, 2009; Baker, 2015; Poole, 2015; Levin and Preminger, 2015; Yuan, 2018). Terminologically, syntactic nominal licensing is usually referred to as (abstract) *Case* (upper case) or *K-licensing*. The morphological case-value is termed *case* (lower case) or *m-case*. I adopt the assumption that Case and case co-exist in grammatical inventories (Legate, 2008; Halpert, 2012; Sheehan and Van der Wal, 2016; 2018). Every nominal needs to be abstractly Case-valued, but morphological case is established configurationally and post-syntactically. I use the term (*nominal*) *licensing* for abstract nominal licensing and the term *m-case* for the morphological expression of case (Bobaljik, 2008).

- (3) a. **m-case** $\Rightarrow$ morphological case value
- b. **nominal licensing** $\Rightarrow$ syntactic licensing of a nominal (also *abstract Case*)

As an example, in an English transitive sentence like *David gave me a cookie*, the recipient *me* is licensed via an Applicative head, the agent *David* is licensed via movement to SpecTP and agreement with T and the theme *cookie* is licensed in the complement position of V. The dependent case algorithm assigns inherent dative case to *me*, and from the arguments left, marks the higher one (*David*) with nominative and the lower one (*cookie*) with accusative.

Another reason for the split between morphological case and abstract nominal licensing is the fact that by far not all languages express morphological case: many languages (e.g. Mandarin, Thai, Yoruba, Jamaican Creole (JC), Luganda, Makhuwa, etc.) lack it completely, and even English is not rich in it. It is usually assumed that these languages still require that every nominal is abstractly licensed (see Sheehan

and Van der Wal, 2018 for an extensive discussion). Thus, expression of overt morphological case seems to be a language-specific option whereas the requirement for licensing is argued to be a universal syntactic requirement.

A-movement One reason for the development of abstract Case (even in languages with no case or quirky case) is the idea that all A-movement is driven by a nominal's need to be case-licensed (Borer, 1986; Fukui and Speas, 1986; Bošković, 1997; 2002; 2007; Epstein and Seely, 2006; Boeckx, 2000; Grohmann, Drury, and Castillo, 2000; Levin, 2015). As noted above, in a subject raising construction like *David seems to have eaten all the cookies*, *David* cannot be case-licensed by the embedded, non-finite verb (*eat*) and therefore needs to move to the matrix subject position to be licensed there. Unfortunately, there are various mismatches between case-licensing and A-movement, some of which are discussed later in this section. To give one example, many languages exhibit Hyperraising, shown in (4). The embedded subject *boys* moves from a fully finite embedded CP clause to a matrix argument position; it ϕ -agrees with both the embedded and the matrix verb, thus the argument developed for English does not hold for these cases. Note that Hyperraising is not obligatory; the moved DP could just as well remain within the embedded clause.

- (4) *Os meninos parecem [que t fizeram a tarefa]*
 the boys seem.3.PL [C t did.3.PL the homework]
 'The boys seem to have done their homework.'

Brazilian Portuguese (Nunes, 2009: 5)

Even though there are accounts tying Hyperraising to case-deficiency of the embedded clause (Ferreira, 2000; 2009; Martins and Nunes, 2005; 2009; 2010; Nunes, 2008), there are many proposals arguing against a case-deficient embedded clause, suggesting that Hyperraising is A-movement of an already licensed nominal and is not driven by the nominal's lack need for case (see Zyman, 2023 for an overview and chapter 6, section 6.5.7 for an in-depth discussion).

Such examples promote alternative accounts to A-movement, which assume that A-movement does not necessarily or always root in the need for nominal licensing, but can have independent driving forces; such as a structural need to fill a head's specifier (EPP), a [D] feature, requiring nominal movement or a [ϕ]-feature that requires its goal to be in a spec-head relation. The most common proposals are listed in (5).

- (5) a. **A-movement is driven by the need of an nominal to be licensed in a structural position:** the need comes from the nominal itself or from a bi-directional [$u\phi$]-[uCase] requirement (e.g. Borer, 1986; Fukui and Speas, 1986; Bošković, 1997; 2002; 2007; Epstein and Seely, 2006; Boeckx, 2000; Grohmann, Drury, and Castillo, 2000; Levin, 2015)
- b. **A-movement is driven via the *Extended Projection Principle* (EPP),** a requirement for the subject position to be filled with the closest available nominal, irrespective of K-licensing (e.g. Zaenen, Maling, and Thráinsson, 1985; Yip, Maling, and Jackendoff, 1987; McGinnis, 1998; Marantz, 2000; McFadden, 2004; Wurmbrand, 2006; Sigurðsson, 2009)
- c. **A-movement is driven by a [D] feature/ structure building features,** attracting a DP to its specifier ([D]-features are sometimes used as an A-movement triggering force; they refine the EPP without resuming to case

or $[\phi]$ (e.g. Müller and Sternefeld, 1993; Heck and Müller, 2007; Poole, 2015; Zyman, 2018; 2023).

- d. **A-movement is driven by $[\phi]$ -features** (e.g. Obata and Epstein, 2011; Diercks, 2012; Zeijlstra, 2012; van Urk, 2015; Sheehan and Van der Wal, 2018; Fong, 2019; Wurmbrand and Haddad, 2016; Fong and Halpert, 2023).

If we assume option d) namely that A-movement is (or at least can be) driven by a ϕ -feature (as I do in this thesis), we first need to investigate how ϕ -agreement behaves with respect to A-movement and case.

ϕ -agreement ϕ -agreement, that is the morphological agreement relation between a nominal and a functional head, is often assumed to be related to all, A-movement, m-case and nominal licensing. This roots in the idea that $[u\phi]$ and $[uCase]$ (the nominal's need to be licensed) are two sides of the same coin; a probing head carries unvalued $[u\phi]$ but valued $[Case]$ features, whereas a non-licensed nominal carries unvalued $[uCase]$ but valued $[\phi]$ features (Frampton and Gutmann, 2000; Chomsky, 2001; Chomsky, 2008; Pesetsky and Torrego, 2004). If a $[u\phi]$ -probe and a $[uCase]$ goal enter an agreement relation, $[\phi]$ licenses the nominal and the nominal defines the heads ϕ -value. At first sight, such a bi-directional correlation seems intriguing and in fact, ϕ -agreement and case often go together; for example, in many languages, ϕ -agreement targets the argument with unmarked case (Bobaljik, 2008). Further, in many languages, only the nominative subject may undergo A-movement—if A-movement is movement to license $[uCase]$, all this fall into place. The relation between $[uCase]$, $[u\phi]$ and A-movement is then further elaborated by the *Activity Condition*. The Activity Condition states that only uninterpretable goals are accessible for agreement; thereby, only $[uCase]$ goals are accessible to $[\phi]$ -probes, ruling out that one and the same goal agrees with multiple ϕ -heads and on the other hand making sure that $[u\phi]$ finds the $[uCase]$ nominal.

- (6) *Activity Condition* (taken from Nevins, 2004)
An XP that eliminates its uninterpretable features (e.g. *case*) is rendered inactive. Inactive elements are not accessible for further operations.

For English, the Activity Condition makes sure $[\phi]$ on T targets the $[uCase]$ nominal; the nominative. Further, it prohibits multiple A-movement chains like passivization of an already passivized subject (7a) or raising to subject out of a finite clause (7b) (cf. Chen, 2018: 15).

- (7) a. ***Annie** was rumoured that *t* was invited by this year's Oshehaga festival.
b. ***Annie** seems that *t* is an acclaimed shred guitarist.

The ungrammaticality of (7a) and (7b) is accounted for in the following way: $[uCase]$ on the relevant nominal (*Annie*) is valued in the embedded clause, via agreement with embedded T. Thereby, the nominal is invisible for ϕ -agreement with a higher probe and may not undergo further A-movement. It is then irrelevant whether A-movement is movement for licensing or for $[\phi]$ -agreement; all three mechanisms are intertwined and inseparable from each other. Last, the dependent case algorithm marks the highest argument nominative and the lower one accusative. And whilst such an analysis works well for English, it does not account for all languages; empirical mismatches between all three operations (ϕ -agreement, case and A-movement) as well as counter-examples to the Activity Condition are easy to come across.

3.1.2 Mismatches between ϕ -agreement, A-movement and case

Against the Activity Condition A two-way connection between $[u\phi]$ and $[uCase]$ on probe and goal is a highly predictive way to describe i) the widely observed correlation between case-assignment and ϕ -agreement and ii) the inability of nominals to move from one case-position to another (which holds not only in English but also in many other languages). Unfortunately, the restrictions in i) and ii) do not hold universally: it is not hard to find grammatical instances for both (7a) and (7b). Two (of the several) puzzles for the *Activity Condition* are case-stacking and Hyperraising. Case-stacking is found (among others) in Korean, Japanese, and Amis, where a single nominal may express multiple morphological case values. In (8) the DP *Panay* receives three case values (ACC, NOM, GEN), stacked onto each other (see Chen, 2018 for extensive argumentation).

- (8) *Ma-fana' kako to-ko-ni Panay mi-liyas-to inacil*
 AV-know 1SG.NOM ACC-NOM-GEN **Panay** AV-leave-ASP yesterday
 'I know that Panay left yesterday.'
Amis (Chen, 2018: 21)

In order for case-stacking to be grammatical in a system where $[\phi]$ and $[Case]$ are intertwined, and only licensed nominals feed into the dependent case algorithm, we have to assume that an already licensed nominal has entered another ϕ -agreement relation and receive another case value; under the Activity Condition, this should not be possible. Another violation of the Activity condition can be found in Hyperraising constructions. As already shown above, in Hyperraising, a DP raises out of a finite embedded clause to the matrix subject or object position. The hyperraised DP ϕ -agrees both with the matrix and the embedded verb, depicted in (9), where *boys* triggers 3PL agreement both on the matrix verb *seem* as well as on the embedded verb *do*.

- (9) *Os meninos parecem [que t fizeram a tarefa]*
 the boys seem.3.PL [C t did.3.PL the homework]
 'The boys seem to have done their homework.'
Brazilian Portuguese (Nunes, 2009: 5)

And even a combination of the two is possible: Hyperraising can induce case-stacking, as found in Japanese:

- (10) *Taroo-wa Hanako(?-ni)-dake-o [t eigo-ga hanas-e-ru-to]*
 Taro-TOP Hanako(?-DAT)-only-ACC [t English-NOM speak-can-PRS-C]
omot-tei-ru.
 think-ASP-PRS
 'Taro thinks that only Hanako can speak English.'
Japanese (Lohninger, Kovač, and Wurmbrand, 2022: 12)

If ϕ -agreement is only possible with $[uCase]$ nominals, instances of case-stacking and Hyperraising are difficult to capture: a $[u\phi]$ probe would never find an already licensed nominal; it would only be sensitive to unlicensed nominals. Hyperraising and case-stacking should be ungrammatical. Since they are not (at least not in all languages), I refrain from the *Activity condition* as a universal restriction, which means, I assume that both valued and unvalued goals may undergo A-movement and be targeted by $[\phi]$ -agreement (see also, *a.o.*, Béjar and Massam, 1999; Branigan and MacKenzie, 2002; Rezac, 2004; Merchant, 2006; Asarina, 2011; van Urk, 2015; Zyman, 2017; Chen, 2018; Fong and Halpert, 2023). This transfers to the idea that a

single nominal can receive multiple m-case values (that is, take part in the dependent case algorithm more than once) which may be expressed as case-stacking (Richards, 2013; Assmann, 2014; Levin, 2017; Chen, 2018), case-overwriting (Béjar and Massam, 1999; Merchant, 2006) or case-preservation (Keine, 2018). In any case, a nominal is not restricted to only receive one single case value, and can A-move away from a position it has been licensed in.

Mismatches between A-movement and ϕ -agreement If we ignore nominal licensing for a moment and assume that A-movement is triggered by ϕ -agreement, we would assume that the two always go together. This is often, but not always the case. In Icelandic, for example, a quirky subject may undergo A-movement (to the subject position, SpecTP, see Zaenen, Maling, and Thráinsson, 1985), but ϕ -agreement nevertheless targets the nominative object.

- (11) *Joni líkuðu þessir sokkar*
 Jon.DAT like.PL these socks.NOM
 ‘Jon likes these socks.’ Icelandic (Bobaljik, 2008: 298)

Similarly, in Tsez, ϕ -agreement may only target the absolutive argument, not the ergative (Polinsky and Potsdam, 2001; Polinsky, 2016). Nevertheless, it is the ergative argument that partakes in a raising to subject configuration, where it A-moves from the embedded to the matrix clause, shown in (12).

- (12) *Ža aʔi [t ko y-ac'-a] b-iči-xosi*
 DEM BIRD.ABS.III [t.ERG raspberry.ABS.II II-eat.TR-INF] III-stay-PRS.PTCP
 yot
 be.PRS
 ‘This bird keeps eating (the) raspberries.’ Tsez (Polinsky, 2016: 317)

Cases like (11) suggest that ϕ -agreement and A-movement can target different elements. Further, whilst A-movement is truly A-minimal (it always attracts the closest nominal), ϕ -agreement is subject to much more language-specific rules and exceptions; as Bobaljik, 2008 shows, ϕ -agreement can be sensitive to m-case. Some languages allow ϕ -agreement with all ϕ -goals, irrespective of their morphological case value, whilst other languages restrict ϕ -agreement to unmarked case (e.g. Tsez, see also Polinsky and Potsdam, 2001; Polinsky, 2015).² Relatedly, as Deal, 2015; 2020 argues, ϕ -goals may come with language-specific interaction and satisfaction conditions, thereby can make very specific requirements on what counts as a fitting goal. Grishin, 2023, based on Passamaquoddy, lays out that ϕ -agreement may sometimes even have a *lowest preference*, that is it picks the nominal that is furthest away. To state that ϕ -agreement always and only targets the closest ϕ -goal is thereby a harsh (and wrong) simplification; ϕ -agreement is subject to much wider language-specific variation. A-movement, on the other hand, is not that complex—in most languages, it seems to be restricted to the highest DP of a clause (the subject) (although this thesis will investigate a number of exceptions to that).

In the end of this section I will suggest that the relationship between ϕ -agreement and A-movement is the following: an A-movement triggering probe [EPP] is contingent on ϕ -agreement but the two may split up if language-specific requirements prohibit ϕ -agreement with the closest nominal (as is for example the case in Icelandic,

²This is formulated as the dependent case hierarchy. If a language allows ϕ -agreement with marked nominals (accusative or ergative), it also allows it with unmarked case (nominative or absolutive). The same is not true vice versa; there are languages in which ϕ -agreement is restricted to unmarked case.

which, as an independent requirement, restricts ϕ -agreement to nominals). Related to this discussion is the fact that ϕ -agreement may happen with in-situ nominals (Bobaljik and Wurmbrand, 2005) and does not necessarily trigger movement of its goal. In-situ agreement is possible as long as probe and goal are within the same agreement domain. They define an agreement domain as "the (verbal) complement to a lexical verb" (p.828). In their account, A-movement may always happen additionally to agreement, but only is forced if the agreement relation spans more than one domain.

Mismatches between ϕ -agreement and licensing If we set aside A-movement, we also find mismatches between ϕ -agreement and nominal licensing. This partly relates to the Activity Condition discussed above but spans even further. For example, Long-distance agreement (LDA) constructions are unexpected under a strict correlation between ϕ -agreement and nominal licensing. In LDA, an embedded, arguably A'-moved nominal triggers ϕ -agreement with a matrix verb, shown in (13) from Innu-Aimûn, where the matrix verb *know* ϕ -agrees with the embedded DP *Joseph* in number.

- (13) *Ni-tshissenim-ânân-ø* [*mûpishtuât Shûshepa Tshân mâk Mânî*]
 1PL-know-1PL-3 [visit **Joseph** John and Marie]
 'We know that John and Marie visited Joseph.'
Innu-Aimûn (Branigan and MacKenzie, 2002: 388)

There is various evidence that in LDA constructions, the embedded clause is not case-deficient, the embedded DP has been licensed below and has undergone (overt or covert) A'-movement to the edge of the embedded clause (see Polinsky and Potsdam, 2001; Bruening, 2001b; Branigan and MacKenzie, 2002; Grishin, 2023 and chapter 6 of this thesis for LDA in Innu-Aimûn, Passamaquoddy and Tsez). Still, matrix ϕ -agreement may target this embedded DP. This is highly unexpected if ϕ -agreement was restricted to target solely unlicensed nominals.

3.1.3 What I assume in this thesis

For this thesis, I construct a framework in which A-movement, ϕ -agreement, nominal licensing and morphological case are to a large degree independent from each other. However, they often converge on one and the same argument, as this is usually the most economical/easiest option. In short, this is what I will suggest:

- (14) a. **Every nominal has to be licensed (Case filter):**
 nominal licensing is achieved in a structural position (thematic or the subject position) or established via last-resort, post-syntactic mechanisms (e.g. strict verbal adjacency).
 b. **Multiple ϕ -agreement with the same nominal (no Activity Condition):**
 One and the same nominal may undergo agreement with multiple ϕ -probes; [ϕ]-probes are not restricted to unlicensed goals but may also agree with already licensed nominals.
 c. **A-movement is contingent on [ϕ]:**
 A-movement happens if [ϕ] is merged as a strong, movement-inducing probe. Thereby, A-movement is a combination of ϕ -agreement with an [EPP] sub-feature. The two may split up if language-specific requirements prohibit the [ϕ] to agree with the closest nominal.

- d. **A-movement is independent of nominal licensing:**
[• ϕ •] may trigger movement of already licensed nominals; thereby, A-movement is not necessarily movement FOR K-licensing.
- e. **Morphological case is established via dependent case:**
M-case is established via a dependent case algorithm that is interspersed with structure building; it operates between A-movement and A'-movement.

Let me explain a)-e).

Case filter and nominal licensing

Along the lines of Chomsky's 2001 Case Filter, I assume that every nominal needs to be licensed at least once in the course of a derivation. I assume that nominal licensing is tied to certain structural positions, primarily thematic positions and positions with grammatical functions (e.g. the canonical subject position in SpecTP). It is not a necessary requirement of syntactic structure that every head that bears [ϕ] must also license a nominal, neither is [ϕ] restricted to unlicensed nominals. The two are independent of each other. Further, nominals may be licensed via language-specific last-resort strategies: Baker, 1988; Baker, 2008; Levin, 2015 argue that some languages allow nominals to be licensed post-syntactically, for example via strict verbal adjacency. I adopt this assumption which will be primarily relevant for Balinese and Malagasy in chapter 7. Thereby, the case filter is refined to: all derivations in which a nominal is left unlicensed and cannot be licensed via a post-syntactic last-resort process, crash. Overall, nominal licensing will not be the main focus of this thesis.

Dependent case Morphological case is established via a dependent case algorithm (Marantz, 2000) which takes as input all nominals in A-positions (base-positions or positions they have been A-moved to; Baker, 2015).³ The dependent case algorithm takes all nominals that are not assigned lexical case (e.g. dative) and assigns them a case-value, depending on their hierarchy to each other. There is language-parametric variation as to whether the higher nominal is marked with dependent case (ERG) or the lower one is (ACC). Abstractly, a common dependent case algorithm looks like the following (but may come with language-specific divergence):

- (15) a. ① **Assign idiosyncratic lexical case**
 b. ② Take the remaining DPs in the local domain that have not been assigned case yet. If **DP α c-commands DP β , assign dependent case:**
 i) to DP α (ERG) ("upwards dependent case") OR
 ii) to DP β (ACC) ("downwards dependent case")

In the classical understanding of the dependent case algorithm, only DPs within a local TP domain are considered. This is based on a positional implementation of the A'/A distinction, where elements in TP are A-elements whereas elements above TP are A'-elements. In a featural understanding of the A'/A distinction, we need to slightly reformulate this claim; the dependent case-algorithm takes as input every nominal that is in an A-position (Marantz, 2000). A-positions are a nominal's base-position or its landing-site after A-movement (A-movement, as we see in this thesis,

³Note that we need to make sure that the dependent case algorithm does not take into account A-scrambling. Along the lines of Abels, 2007 I assume that A-scrambling is timed after ϕ -induced A-movement. Thus, there might be an ordering like A-movement induced by [ϕ], dependent case algorithm, A-scrambling. I leave open for future research how to implement that without running into look-ahead or loop creation or cyclicity problems.

is not strictly tied to the TP domain and can be induced by $[\phi]$ features outside of TP). A'-positions, that is positions created by A'-movement, are invisible for dependent case assignment. Along the lines of Poole, 2023, I assume that the dependent case algorithm is interspersed with structure building and operates (time-wise) between A-movement and A'-movement (see also Baker, 2015; Preminger, 2011; 2014). Thereby, dependent case can only take into account A-positions but not A'-positions (see also Abels, 2007 for a timing account of A- and A'-movement).⁴ Under this assumption, morphological case-assignment indicates the quality of a movement chain: if a nominal is assigned morphological case in its derived position, this means it has taken part in the dependent case algorithm. If the dependent case-algorithm runs on A-positions, this nominal must be located in an A-position, thus, if it moved, it must have undergone A- and not A'-movement.⁵ Further, I assume that the dependent case algorithm operates on CP domains (Poole, 2023). In the course of this thesis, we will see examples where a nominal A-moves from one CP into another (Hyperraising, see chapter 6 for details). In these cases, I suggest that it partakes twice in dependent case assignment; once in the embedded clause and once in the matrix clause (see also Gong, 2022). This presupposes that a single nominal can receive multiple case values (that is, take part in the dependent case algorithm twice). Along the lines of Béjar and Massam, 1999; Merchant, 2006; Gong, 2022), I assume that nothing blocks a single nominal from receiving multiple case (as long as it has moved successive-cyclically from one A-position to another). Multiple case-values may be expressed as case-stacking (Richards, 2013; Assmann, 2014; Levin, 2017; Chen, 2018), case-overwriting (Béjar and Massam, 1999; Merchant, 2006) or case-preservation (Keine, 2018).

A-movement is contingent on ϕ -agreement

I assume that A-movement is an "add-on" to ϕ -agreement. A-movement is driven by a movement-inducing, unvalued ϕ -probe on a functional head; that is a $[\phi]$ -probe that is merged with an [EPP] sub-feature (see also Wurmbrand and Haddad, 2016). I term this probe $[\bullet\phi\bullet]$; one could also notate it as $[\phi^{EPP}]$. The essence is the same; it is a $[\phi]$ probe that requires its specifier to be filled with the element it agreed with. A bare $[\phi]$ -probe may agree with a goal in-situ (and license it there); only a probe that is merged together with [EPP] as $[\bullet\phi\bullet]$ will induce A-movement of the agreed-with goal to the probe's specifier. ϕ -agreement may underlie language-specific restrictions, such as a restriction to unmarked case (Bobaljik, 2008) or a restriction to a certain set of ϕ -features (Deal, 2015; 2020; Coon and Keine, 2020). The [EPP] sub-feature is solely restricted to the closest nominal. If in a certain language (or construction) the highest nominal does not depict a suitable goal for ϕ -agreement, $[\phi]$ and the A-movement triggering [EPP] may split up and target two different elements (as is for example the case in Icelandic quirky subject constructions where, as shown above, A-movement targets the most local DP, the quirky subject, whereas

⁴Note that we have to set aside A-scrambling here which does not feed into case-assignment. Only ϕ -triggered A-movement appears to be visible for dependent case. Potentially, there is a finer-grained timing between movement operations, so that ϕ -induced A-movement happens first, then the dependent case algorithm operates on the derivation and only then A-scrambling and A'-operations take place (see Abels, 2007).

⁵I am aware that this argument is a bit circular; nothing in my theory really hinges on case assignment. The only reason why it is relevant is that in composite derivations, what we observe is that when the movement chain looks like A-movement, it has repercussions on case whereas when it looks like A'-movement, it does not. Morphological case-assignment is simply one of the properties that correlate with the other movement chain properties.

ϕ -agreement (which is restricted to nominatives in Icelandic) agrees with the NOM object).⁶ Optimally, $[\phi]$ and $[EPP]$ want to occur together; they only split up as last-resort option to salvage the derivation.⁷ In the languages relevant for this thesis, A-movement always targets the same element as ϕ -agreement does, thus the last-resort split is not directly relevant. Last, note that under the claim that A-movement is contingent on $[\phi]$ -agreement, I have to assume that $[\phi]$ -features are present even in languages where we do not see a morphological reflex thereof (e.g. Mandarin Chinese for example which lacks ϕ -agreement completely). For these languages I notate the $[A]$ probe as $[\phi]$ and thereby mean something like "abstract ϕ "; note that this could just as well (or probably more accurately) be labeled as $[EPP]$ or $[D]$ but for the sake of coherence, I stick with the notation $[\phi]$. Last, note that this approach translates primarily to the instances of movement investigated in this thesis. There must be at least one other trigger for A-movement since there definitely are instances of A-movement that have nothing to do with ϕ -agreement and also do not feed the dependent case algorithm: A-scrambling or Scandinavian object shift, for example. In these cases, there is clause-internal movement that exhibits all hallmarks of an A-movement chain (WCO, no parasitic gaps, can feed further A-movement) but there is no ϕ -agreement between the moved element and the verb (although the languages do not lack morphological ϕ -agreement altogether) and movement has no repercussions on morphological case. I do not make a conclusive statement about the extent of A-movement operations and the various triggers thereof, as this would require writing another thesis; I summarize the instances of A-movement investigated in this thesis as triggered by $[\bullet\phi\bullet]$, but am aware that this cannot be the final story for all cases of A-movement.

A-movement is not induced by case-licensing but feeds into dependent case

Last, A-movement may happen to any nominal, independent of its licensing status. I assume that nominal licensing is an independent requirement: every nominal needs to be licensed in the course of the derivation. Licensing happens in certain structural positions (thematic or the grammatical subject position) or via last-resort operations like verbal adjacency.⁸

To conclude, I suggested that A-movement, ϕ -agreement, and morphological case-assignment are to some degree independent operations. In most cases, however, they collapse on the same element, thereby are not easily distinguishable from each other.

- (16) a. **A-movement** = $[\phi]$ + $[EPP]$
 ii) strictly A-minimal; restricted to the closest nominal
 i) $[\phi]$ and $[EPP]$ may split up if the closest nominal is not a suitable goal for ϕ -agreement

⁶Note that I have to assume that ϕ first moves the closest argument, then the dependent case algorithm applies and only then $[\phi]$ evaluates whether it can agree with the goal in its specifier or has to probe again and find another goal to (long-distance) agree with; otherwise ϕ -agreement can never be sensitive to morphological case (as it is in some languages, see Bobaljik, 2008). I am aware that this needs some refinements.

⁷Note that in Müller and Sternefeld, 1993, the correlation between A-movement and ϕ is notated as a feature $[D]$ that may come with a sub-feature $[D:\phi]$. In principle, nothing speaks against this ordering; eventually it most likely is the correct one under the observation that ϕ -agreement seems to take A-movement and case as an input. For this thesis, I simplify things into $[\phi]$ and $[\bullet\phi\bullet]$ and leave a refinement open for later revisions.

⁸Note that this sounds very vague; in this thesis I primarily look at overt case marking, which I take to be derived by dependent case. Nominal licensing is, per se, not the focus of this thesis.

- b. **morphological ϕ -agreement** = [ϕ]
 - i) does not per se trigger movement
 - ii) may have language specific restrictions to certain goals, thereby is not strictly A-minimal
- c. **Morphological case = dependent case**
 - i) established after A-movement
 - ii) takes as input nominals in A-positions⁹
- d. **Nominal licensing**
 - i) independent requirement of nominals
 - ii) happens in specific structural positions or via last-resort mechanisms

I set these assumptions in a) a procedural model of probing, where a search process stops as soon as a fitting goal is found (Chomsky, 2004, *et seq.*), combined with a trans-derivational evaluation at the interfaces, where structures can be filtered out when they do not meet the all syntactic and semantic requirements (e.g. that every nominal is licensed) (Lasnik and Saito, 1994; Chomsky, 1995; Nakamura, 1998; Wurmbrand and Lohninger, 2023) or salvaged via last-resort, post-syntactic processes (Baker, 1988; 2015; Levin, 2015). Put together, all derivations that do not manage to fulfill the requirements in (16) fail, unless there is a language-specific last-resort option to salvage them.

3.2 Successive cyclic movement and phases

3.2.1 CP and VoiceP phases

I assume that both VoiceP and CP are phasal and that all movement (A and A') needs to pass through their phase edges. Phase theory is a widely discussed topic and the amount of existing accounts thereof is vast, especially when it comes to the phasal status of VoiceP (see Citko, 2014 for an extensive overview). As for CP, there is more or less general consensus that it depicts a phase (putting aside some language-specific exceptions, often derived via mechanisms like phase-unlocking, or delayed phasehood; see e.g. Richards, 1998; Rackowski and Richards, 2005; Halpert, 2019; den Dikken, 2018; Branan, 2018; Davis and Branan, 2019) and that all movement that leaves CP has to pass through its left edge, SpecCP. If we turn to VoiceP, the picture is a bit more complex and so are accounts dealing with it. The classical Chomskian take (that is, traditional phase theory; Chomsky, 2001; 2008, *et seq.*) is that VoiceP is phasal, and just like CP requires successive cyclic movement through its edge. All other phrases are not phasal. Several accounts depart from this "standard" assumption: some authors suggest that not just VoiceP and CP, but every phrase is a phase (Bošković, 2002; Boeckx, 2003; Müller, 2004; 2010; 2011; Boeckx and Grohmann, 2007). Epstein and Seely, 2006 bring forward that not every phrase, but every syntactic operation constitutes a phase. Other authors suggest that phasehood in general (of VoiceP, CP but also other phrases, like PP) is not a given but defined contextually (Bošković, 2005; 2014; den Dikken, 2017; Gallego and Uriagereka, 2006; 2007; Takahashi, 2010; 2011; Alexiadou, Anagnostopoulou, and Wurmbrand, 2014). Finally, there are some approaches arguing that CP is a phase but VoiceP is not (Grano

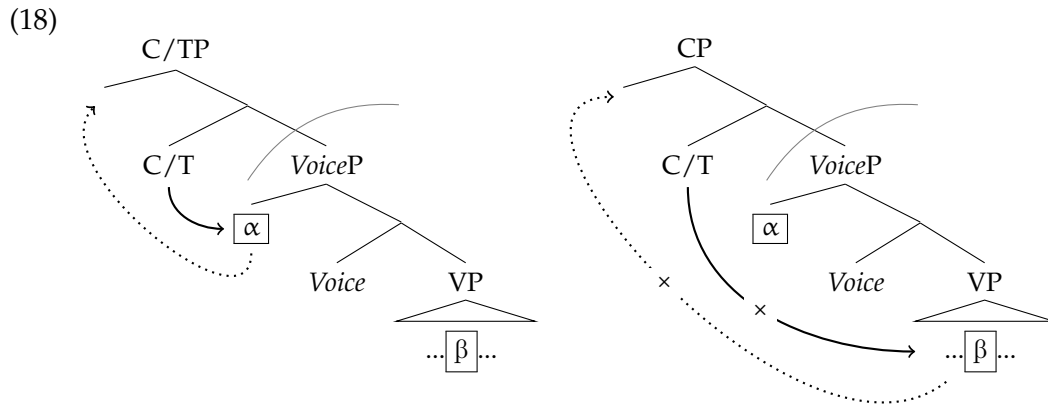
⁹I assume that the dependent case algorithm operates between [ϕ]-induced A-movement and A-scrambling, thereby targets nominals that have been displaced by [ϕ]-agreement but not such which have been A-scrambled.

and Lasnik, 2018; Keine, 2020a; 2020; Mendes and Ranero, 2021; Keine and Zeijlstra, 2023). All of these accounts present valid argumentation for their claims and I do believe there is much left to discuss about phases, particularly in a comparative perspective.

3.2.2 Successive-cyclic movement

For this thesis, I adopt the standard Chomskian view that both CP and VoiceP are phasal and that all movement has to proceed through SpecVoiceP and SpecCP, i.e. proceed in a successive-cyclic manner (*a.o.* Torrego, 1984; Lebeaux, 1991; 1998; Henry, 1995; Chung, 1998; Fox, 2000; Nissenbaum, 2000; McCloskey, 2002; Abels, 2003; Sauerland, 2003; Bobaljik and Wurmbrand, 2005; Rackowski and Richards, 2005; den Dikken, 2009; 2012; Abels, 2012a; Legate, 2012; Georgi, 2014; van Urk and Richards, 2015; Wurmbrand and Haddad, 2016). Vice versa, only elements at the phase-edges are visible to a higher located probe. This is summarized under the *Phase Impenetrability Condition*, and depicted in the structures in (18).

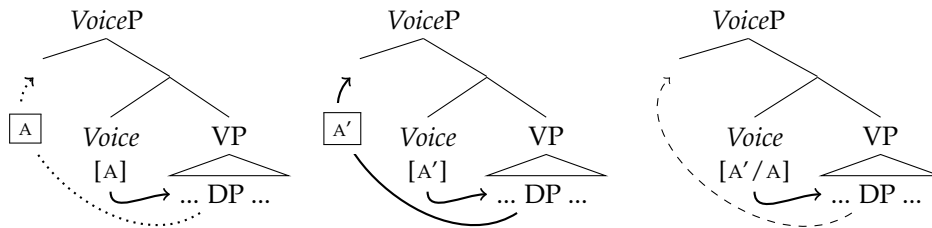
- (17) *The Phase Impenetrability Condition (PIC)* (Chomsky, 2001: 14)
The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.



Further, there is discussion of whether only A'-movement moves successive-cyclically (e.g. Fox2000; Chomsky, 2001; Boeckx, 2000; Nissenbaum, 2000; Castillo, Drury, and Grohmann, 2010; Epstein and Seely, 2006) or if A-movement does too (Sauerland, 2003; Bobaljik and Wurmbrand, 2005; Legate, 2012; Alexiadou, Anagnostopoulou, and Wurmbrand, 2014; Wurmbrand and Haddad, 2016). I follow the latter line of approaches and assume that A-movement, just like A'-movement, has to proceed successive-cyclically through all phase-edges. Under an Agree and Merge account of movement, this means that all phasal heads must be equipped with movement inducing probes in order to "hand-on" movement (Georgi, 2014). Further, if we assume that both A'- and A-movement proceed successive-cyclically, this means Voice must be able to host different kinds of movement-inducing probes in order to allow for both movement chains, in principle, to proceed through its edge. I assume that Voice can always be equipped with a bare, movement-inducing [A'] probe (enabling regular A'-movement out of it; Abels, 2012a; Georgi, 2014; van Urk, 2015), whilst it is only in some cases equipped with a movement-inducing [A] probe (enabling A-movement out of it; Wurmbrand and Haddad, 2016), or with a composite [A'/A] probe (van Urk, 2015; van Urk and Richards, 2015; Longenbaugh, 2017; Chen, 2023).

I suggest that [A] or [A'/A] probe on Voice is the result of different Voice heads; e.g. a passive Voice head or an unaccusative *v* head is merged with a movement-triggering [A] in order to allow the internal argument to A-move out of it. The four different options are depicted in the (simplified) structures below (a discussion of the split voice domain and multiple voice layers can be found in the next section). Note that the exact syntax for movement chains triggered by [A'/A] probes is only discussed in the next chapter, 4, therefore, movement in (19)c) is only indicated by a dashed line.

- (19) a. [A] on Voice b. Bare [A'] on Voice c. Composite [A'/A] on Voice



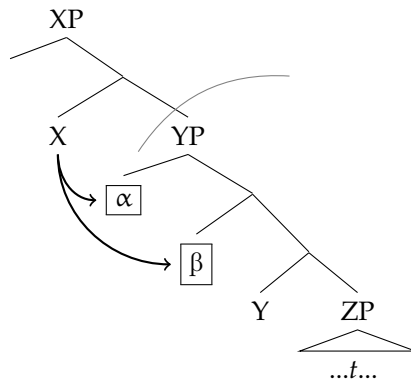
I assume that a movement-inducing [A'] probe can be present on any phase head (Abels, 2012a; van Urk, 2015). In fact, van Urk, 2015 brings forward that all phase-heads are standardly merged with a flat [A'] probe, which gets active if it finds a fitting goal but can remain unvalued (fail) if not. I adopt this approach. Opposed to [A'] probes, I assume that a movement-inducing [A] probe is only merged on certain types of phasal heads; e.g. passive Voice heads, Voice heads in restructuring contexts, certain C heads in Hyperraising contexts, etc. An A-movement inducing [ϕ] is not in general available on any phasal head, but selectively merged. Last, [A'/A] probes pattern with movement-inducing [A] probes; they are not per default merged on any phasal head but only occur on specific ones (see chapter 4, section 4.11 for a more detailed account).

3.2.3 Multiple specifiers

Last, I assume that a single head can project multiple specifiers if necessary (see, among others, Ura, 1994; Richards, 1997; McGinnis, 1998; Grewendorf and Sabel, 1999; Epstein, Kitahara, and Seely, 2021). This is necessary when i) a single probing head attracts multiple goals or ii) when a head base-merges an argument in its specifier whilst simultaneously attracting additional movement (e.g. when a probe on Voice attracts an object whilst already hosting an agent in SpecVoiceP). In both cases, a head can project multiple specifiers, hosting distinct elements. I assume that this is true for both Voice and C specifiers. The two specifiers of the same head (both C and Voice) are equidistant for further probing (Ura, 1994; McGinnis, 1998). Thereby, they both count as phase-edge, thus both enable movement into a higher phase.¹⁰

¹⁰There are various accounts assuming that multiple specifiers are hierarchically ordered, thus an element in a higher specifier can "trap" an element in a lower one, e.g. Aldridge, 2004; Aldridge, 2008 for syntactic ergativity, or Richards, 1997 for multiple wh-movement to/out of CP. This led to various explanations of how elements move to multiple specifiers: either via tucking-in (Richards, 1997) or via movement to the highest specifier (Aldridge, 2004, a.o.). Müller, 2009 and Assmann et al., 2015, for example, argue that the ordering of VoiceP specifiers is parametrized language-specifically along with the timed order of merge and agree. Whilst not excluding that there might be certain hierarchical

(20) *Multiple specifiers of the same head are equidistant*

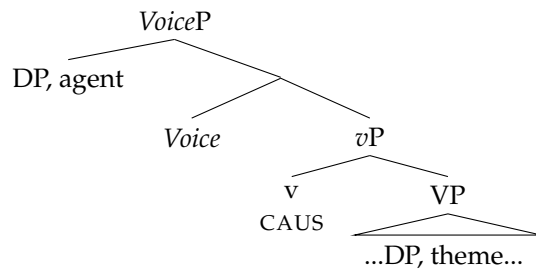


Next, I want to briefly discuss the functional layers of Voice and CP. Even though neither a split voice domain nor a split CP domain will be highly relevant for the remainder of this thesis and the syntactic analyses brought forward, I lay them out for the sake of clarity.

3.2.4 The split voice domain

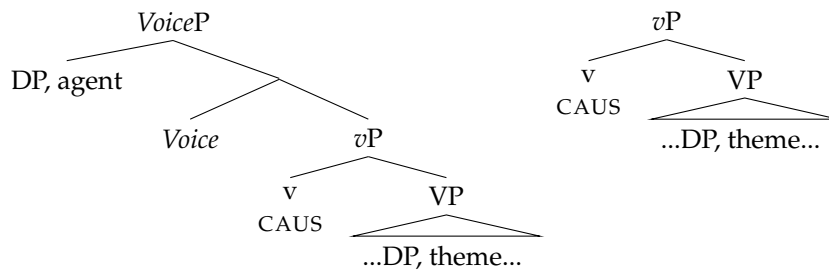
There is intense investigation of the internal structure of the voice domain (see among many others Bowers, 2002; Pylkkänen, 2002; 2008; Folli and Harley, 2005; Alexiadou, Anagnostopoulou, and Schäfer, 2006; Marantz, 2008; Schäfer, 2008; Harley, 2009; 2017; Pitteroff and Alexiadou, 2012; Legate, 2012 2014; Nie, 2020) and I certainly do not do justice to it by referring to the whole domain simply as "VoiceP". Since particularly a split between VoiceP and *v*P is commonly assumed in nowadays syntax, I adopt this for the thesis. In a split voice domain, VoiceP introduces the agent/external argument whereas *v*P serves a causativizer (following Kratzer, 1996).

(21) *Split Voice domain*



Depending on the structure of the predicate, the voice domain may lack certain functional layers; it is, for example, often assumed that unaccusative verbs do not project a VoiceP layer but are merged as *v*Ps (Alexiadou, Anagnostopoulou, and Schäfer, 2006; Alexiadou and Doron, 2012; Bruening, 2013), depicted in the structures in (22).

effects among specifiers deriving word order effects (superiority), control properties or the determination of subjecthood (Bobaljik, 2023), I assume that there are no trapping effects: both specifiers of a single head are equally visible for agreement from above and can undergo further movement.

(22) a. *Transitives, unergatives, passives*b. *Unaccusatives*

I follow a contextual approach to phasality in a split voice domain (Legate, 2003; Wurmbrand, 2012a; 2012; 2013; Wurmbrand and Haddad, 2016). This means, if the voice domain is truncated, thereby does not project all layers (e.g. is a bare *vP*), the highest layer counts as the phase-edge. This means, in unaccusatives, *v* is the phase-head whereas in transitives, *Voice* is the phase-head.

Last, for passives, I assume that *Voice* is merged with an implicit agent (in the form of valued ϕ -features) and does not project a specifier (see among others Embick, 2004; Bruening, 2013; Wurmbrand and Shimamura, 2017; Bryant, Kovač, and Wurmbrand, 2023). I assume that it still depicts a phase for movement (Legate, 2003; Sauerland, 2003; Collins, 2005; Jarrah, 2023) but is merged with an A-movement inducing probe, in order to A-move its internal argument out of it (Bruening, 2013; Collins, 2005).

To summarize, I assume that all instances of *VoiceP*, truncated or not, depict phases. Note that this is not necessarily a "standard" assumption and there are two distinct approaches to phasality in passives and unaccusative: some accounts propose that only transitive *Voice* but neither passive *Voice* nor unaccusative *vP* depict a phase (Chomsky, 2001), whilst others suggest that whilst passive *Voice* constitutes a phase, unaccusative *vP* does not (e.g. Alexiadou and Doron, 2012; Bruening, 2013; Jarrah, 2023). Note that whenever I refer to *VoiceP* in this thesis, I refer to the complex voice domain, consisting of *VoiceP* » *vP* » *VP*. For the sake of space, I do not always depict a *vP* layer in the structures presented.

3.2.5 The split CP domain

Similarly well studied as the split voice domain is the split CP domain (also termed the extended left periphery), best known from cartographic approaches (Rizzi, 1997; Cinque, 1999; Speas and Tenny, 2003; Bianchi, 2003; Giorgi, 2006, etc.). Cartographic approaches part CP into multiple, hierarchically ordered projections, usually consisting of *ForceP* » *high TopicP* » *FocusP* » *low TopicP* » *FinP*.¹¹ A more minimalist implementation of the extended left periphery can be found in accounts like Abels, 2012b or Aravind, 2017 who suggest a featural approach hierarchy effects in the left periphery. Assuming that different CP-related operations are triggered by different features ([*rel*], [*top*], [*wh*], [*foc*]), he states that these features are not necessarily located on separate heads but rather arrange in a feature geometry on a single head *C* (similar to ϕ -features in Harley and Ritter, 2002). As van Urk, 2015 points out, accounts like the ones in Abels, 2012b and Aravind, 2017 account is closer related to a featural implementation of the *A'*/*A* movement (than positional-cartographic approaches); however, I do not elaborate on this more detail here. For the sake of

¹¹I am here focussing on the most classical implementation of a cartographic left periphery; a variety of other left peripheral layers/hierarchies can be found in more recent approaches (see for example Sundaresan, 2012; 2018; Krifka, 2023; Satik, 2021).

space, time and scope of this thesis, in most cases, I refer to the CP domain as if it consisted of one single head C. Whether it truly consists of multiple phrases or hierarchically ordered features on C is not directly relevant for my analysis. Note that, however, in some cases, I refer to a specific CP projection; e.g. TopP in chapter 7 on Austronesian. I define separate CP projections only when really relevant for the theory (e.g. in Austronesian, I particularly state that we are observing a form of topic-to-subject lowering in which a low TopP projection in CP is fused with the canonical subject position in TP), otherwise I refrain from discussing the exact form of the CP clause I assume. I am aware that this is not doing justice to the rich literature on fine structure of the CP and that much more research needs to be done on the correlation between different CP projections and composite $[A' / A]$ probes (although see Mursell, 2020 for an implicational hierarchy of information-structure and long-distance agreement and Lohninger, 2024 for a cartographic account of upward $[A]$ feature percolation). I leave this matter open for future research.

3.3 Summary

To conclude, the relevant claims for this thesis are the following: A-movement is contingent on ϕ -agreement and emerges when $[\phi]$ is merged with a movement-inducing sub-feature $[EPP]$. The movement chain such a probe induces abstracts over individuals and thereby creates an A-landing site. A-movement and case are independent from each other: A-movement is not movement for a nominal's need to be case-licensed; however, but an A-moved element lands in an A-position. There, it can, in principle be K-licensed and will partake in the the dependent case algorithm, assigning it a morphological case-value. Last, both CP and VoiceP are phasal and all movement proceeds successive-cyclically through their phase edges. Both terminal as well as intermediate movement is induced by movement-triggering heads on the relevant head.

3.4 List of languages

The following is an alphabetic list of the fourteen languages that form the empirical base for the claims developed in this thesis, indicating a) what language family they belong to, and b) what exact construction(s) I examine therein.

- (23) *Balinese*
 - a. Austronesian » Indonesian-type
 - b. Promotion to pivot
- (24) *Brazilian Portuguese*
 - a. Indo-european » Romance
 - b. Hyperraising to subject, hanging topics
- (25) *Cantonese*
 - a. Sino-Tibetan » Chinese
 - b. Hyperraising to subject
- (26) *Dinka (Bor)*
 - a. Nilo-Saharan » Nilotic
 - b. Promotion to pivot/ topicalization
- (27) *English*

- a. Indo-european » Germanic
 - b. Raising to subject/object, passivization, topicalization, wh-movement, prolepsis
- (28) *Innu-Aimûn*
- a. Algonquian
 - b. Long-distance agreement
- (29) *Khany*
- a. Uralic
 - b. Passivization
- (30) *Malagasy*
- a. Austronesian » Philippine-type
 - b. Promotion to pivot
- (31) *Mandarin*
- a. Sino-Tibetan » Chinese
 - b. BEI passives, TP-internal (low) topicalization and focalization
- (32) *Mongolian*
- a. Mongolic
 - b. Hyperraising to object
- (33) *Passamaquoddy*
- a. Algonquian
 - b. Long-distance agreement, prolepsis
- (34) *Romanian*
- a. Indo-european » Romance
 - b. Hyperraising to object
- (35) *Tsez*
- a. Northeast Caucasian
 - b. Long-distance agreement
- (36) *Turkish*
- a. Turkic
 - b. Hyperraising to object

Chapter 4

A Unified Syntax for Composite Probes

4.1 Introduction

Chapter 2 introduced a featural implementation of the A'/A distinction and suggested that it makes the better predictions (than a positional implementation) when it comes to languages that do not pattern with the classical A'/A distinction. I illustrated how composite [A'/A] probes entered the field and have been used to account for what is called "composite A'/A configurations" in which a single movement chain appears to exhibit both A'- and A-properties. A large part of the last chapter was concerned with discussing existing approaches of composite probes; in terms of featural combinations, locations of probes in the clausal spine and what syntactic operations they aim to derive. I concluded that whilst there is a severe amount of variation across accounts, there are tendencies as to what phenomena are accounted for and what feature combinations are used; accounts on A'-extraction restrictions often employ [A'/D] probes (making A'-extraction sensitive to the closest DP) whereas accounts on "mixed A'/A movement" often involve [A'/ ϕ] probes. This thesis focuses on the latter phenomena and this chapter in particular presents a uniform syntax for [A'/ ϕ] probes that is able to derive the empirical landscape of mixed A'/A derivations. If we want to include composite probes into our syntactic model, we need an idea of how these probes work, how they relate to other syntactic phenomena and how we may investigate them systematically. For example, does the Ban on Improper Movement still hold for movement chains induced by a composite probe? What kind of movement chain are we dealing with when it was triggered by an [A'/A] probe? How does it differ from bare A'- or A-movement? How does the search mechanism of a composite probe look like? How dependent are the two sub-parts of the probe ([A'] and [A]) on each other? Can they only act in unison or may they split up in the agree process? What counts as the "closest goal" for a composite probe and how do we deal with partially fitting goals? Which structural heads can (or cannot) carry composite probes? How do composite probes enter the syntactic structure? Can they co-exist with bare A- or [A'] probes or are they a replacement thereof? The goal of this chapter is to discuss these questions and present a syntax that addresses and captures them in a systematic way. This means, we look at movement configurations that have been described as involving composite [A'/ ϕ] probes, see whether we find cross-linguistic patterns therein and then establish a syntactic analysis that can capture these patterns.

The analysis developed here draws on data from Balinese and Malagasy promotion to pivot, Dinka Bor extraction patterns, Khanty and Mandarin Chinese passives, Mandarin Chinese low foci/topics, as well as cross-clausal A-dependencies (such as

Hyperraising and long-distance agreement) in a set of unrelated languages (Brazilian Portuguese, Cantonese, Innu-Aimûn, Mongolian, Nez Perce, Passamaquoddy, Romanian, Tsez, and Turkish). All of these languages (or configurations) have received composite $[A'/A]$ probe analyses in the recent years:¹ for Dinka in van Urk, 2015, for Mandarin Chinese in Chen, 2023, for Khanty in Colley and Privoznov, 2020, for Balinese and Malagasy in ErlewineLevinvanUrk2019, Lohninger and Katochoritis, to appear and to some degree in van Urk, 2015; for cross-clausal A-dependencies in Wurmbrand, 2019; Mursell, 2021; Lohninger, Kovač, and Wurmbrand, 2022 (note that for the latter two constructions (Austronesian promotion to pivot and cross-clausal A-dependencies) I present refined A'/A analyses in chapter 6 and 7). The single syntactic accounts are, however, often vague when it comes to detailed syntactic implementation of $[A'/A]$ probing, vary in how specific they are about the exact distribution of A'/A properties in composite configurations and, crucially, usually only investigate a single language or phenomenon (with the exception of Chen, 2023 who presents an insightful comparison of English, Dinka and Mandarin Chinese). This chapter, combined with the next one (5) aim to fill this gap: I embed the existing data and language-specific analyses into a comparative perspective, show that we find highly systematic patterns in composite A'/A configurations and present a unified analysis for $[A'/\phi]$ probes that is able to capture both the systematicity we find as well as the language-specific variation. Whilst only chapter 5 will lay out the relevant empirical data, this chapter focuses on establishing a theoretical analysis for composite $[A'/\phi]$ probes. The chapters are ordered in this way, as we need the syntax developed here to fully capture the data presented in the next chapter.

In a nutshell, the $[A'/\phi]$ syntax consists of the following ingredients and claims: i) $[A'/A]$ probes search for and are only satisfied by a fully fitting A'/A goal. They are not sensitive to defective intervention and may skip partly fitting goals (e.g. a bare A-goal) in favor of a better fitting, lower goal. ii) Even though the probe may be composite, the movement chain an $[A'/A]$ probe induces is either an A- or an A' -chain, abstracting over individuals or choice functions, respectively. A composite probe can be merged in two ways; either with a movement-triggering $[A]$ feature or with a movement-triggering $[A']$ feature. If the $[A]$ feature is merged strong, the $[A'/A]$ probe will induce A-movement of its goal, if the $[A']$ feature is merged strong, the $[A'/A]$ probe will A' -move its goal. Hence, there is no "composite A'/A movement", only composite probing. iii) Composite $[A'/A]$ probes can occur on the phasal heads C and Voice; the two are independent from each other. This means, we find constructions with $[A'/A]$ only on Voice, constructions with $[A'/A]$ only on C and constructions with $[A'/A]$ on both Voice and C. iv) When no fully fitting goal is found, composite probes may, as a language-specific last-resort option, split up, probe for and trigger movement of two different goals. v) Composite probes have different origins and different ways to enter the derivation; they can be the result of $[\phi]$ -feature under-inheritance, head or phrase fusion, syntactic language change and alike. I propose that first, composite probes tend to not come as a default configuration on probe distribution and second, are less economical/more costly than bare $[A']$ or $[A]$ probes, thus composite constructions are less frequent across natural language than bare A- or A' -constructions.

¹For Hyperraising and promotion to pivot, the A'/A analyses partly stem from my own (collaborative) work and are described in detail in chapters 6 and 7.

4.2 Overview

The chapter is structured as follows: in section 4.3, I give an overview of the empirical patterns, the combinations of A'/A properties we find in composite derivations and what statements we will end up with. The aim of this chapter is to briefly introduce the empirical landscape of composite probing in order to have an idea of the patterns this analysis eventually tries to capture. In section 4.4 I disentangle the terminology used in composite $[A'/A]$ probing, stating that derivations/configurations as well as probing heads can be of mixed A'/A quality, whereas movement chains themselves cannot. Movement is either of type A or A' . In section 4.5, I discuss how composite probes relate to the *Ban on Improper Movement (BIM)*, concluding that the BIM is a pure restriction on movement chains, irrespective of whether this movement was triggered by a composite or bare probe. In section 4.6, I suggest that the composite $[A'/A]$ probes under discussion in this thesis search for fully fitting A'/A goals, that is goals that carry both $[A']$ and $[A]$ features. I proceed to the question of how $[A'/A]$ probes trigger movement, and why this movement can either be of type A' or A , in section 4.7. In section 4.8, I conquer one of the vividly discussed questions about composite probing; how $[A'/A]$ probes deal with (relativized) minimality and intervening, partly fitting goals (defective intervention). I argue that the composite $[A'/A]$ probes under discussion are not sensitive to partly fitting goals. In section 4.9, I propose that the few cases which look like defective intervention can be captured in a framework where both CP and VoiceP are phasal and either one of them (or both) can carry an $[A'/A]$ probe. This enables (A-)movement triggered by $[A'/A]$ probes to be successive-cyclic in certain cases (but not in all), deriving different minimality and locality restrictions in A'/A configurations. In section 4.10, I investigate cases where no fully fitting goal can be found and such where multiple fitting goals are available and argue that languages occasionally are able to split up their composite probes (independent probing) or attract multiple fitting goals (multiple probing). In section 4.11, I hypothesize why and how composite $[A'/A]$ probes enter a derivation, propose that there are multiple syntactic pathways that can lead to the formation of an $[A'/A]$ probe and suggest that composite probes always depict a less economic option than bare probes do. Section 4.12 concludes.

This chapter serves as the theoretical basis for the empirical core of the thesis, chapter 5. There, I will use the syntax developed in the present chapter to show that A'/A properties in composite probing configurations are not randomly distributed but constrained in a highly predictable way. The claims of the present and subsequent chapters are substantiated by empirical data and fine-grained analyses in 6 (cross-clausal A-dependencies), 7 (Balinese and Malagasy) and 8 (Dinka, Mandarin Chinese and Khanty).

4.3 The empirical patterns we try to explain

To understand where the theoretical analysis in this chapter is leading to, I will present a short outlook on the empirical data we are trying to account for and what we eventually want to end up with. In chapter 2 I discussed what is commonly taken to be the A'/A distinction, repeated in table 4.1. It divides phrasal movement configurations into two kinds (A' - and A -movement), exhibiting mutually exclusive properties.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
interacts with ϕ	+	–
interacts with case	+	–
can bypass intervening DPs (A-minimality)	–	+
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
can induce weak cross-over	–	+
licenses parasitic gaps	–	+
must reconstruct	–	mostly yes
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 4.1: A' - vs. A-movement, adapted from Safir, 2019 & Richards, 2014

Composite A' / A constructions like Dinka extraction, Balinese and Malagasy pivots, Mandarin Chinese passives and low topics/foci, Khanty passives, Hyperraising, or long-distance agreement combine properties from both sides of the table in a single movement operation. Even though these constructions at first sight (or when only looking at a single language) appear to depict a random mix-and-match pattern of A' - and A-properties, this is not the case from a cross-linguistic perspective. If we compare mixed A' / A configurations across languages, we find a quite narrow set of attested mixtures, shown in table 4.2.

	case	WCO	feeds anaph. bind.	PG ⁱ	feeds A- mvt	re- con- structs	info- struct. effects	restr. to ϕ - goal	ϕ - agree	A- mini- mal	can cross CP
i)	×	✓	×	n/a	×	✓	✓	✓	✓	×	✓
ii)	✓	×	✓	×	✓	×	✓	✓	✓	×	✓
iii)	✓	×	✓	n/a	✓	×	✓	✓	✓	×	×

TABLE 4.2: Empirically attested combinations of A' / A properties

- i) Long-distance agreement
- ii) Dinka, Balinese, Malagasy promotion to pivot, Hyperraising to subj./obj.ⁱⁱ
- iii) Mandarin BEI passives & low topics/foci, Khanty passives

ⁱ Parasitic gaps are only scarcely attested in the languages under discussion

ⁱⁱ Hyperraising (ii.) is often A-minimal; see section 4.9 for discussion

What we see in table 4.2 is that some A' / A properties pattern together, whilst others do not. The properties seem to form three broad groups within which the single values appear to be dependent on each other. For example, the first five columns of table 4.2 (weak crossover, creation of new antecedents for anaphor binding, parasitic gap licensing, obligatory reconstruction effects (usually for principle C), correlation with case-assignment, and the ability to feed further A-movement) correlate in their values: a construction either induces weak crossover, reconstructs for interpretation and neither feeds case-assignment nor subsequent A-movement and cannot license parasitic gaps² or it behaves the other way around. In the configurations under

²Note that PG licensing is only scarcely attested in the languages under discussion, thus these values are predicted and do not always have a strong empirical foundation.

investigation, we find exactly these two combinations of values, summarized in table 4.3). Any other combinatorial possibility is unattested.³ Single values may be missing in specific languages (e.g. a language might not express overt case or not allow parasitic gaps in general; both of which is the case for Mandarin Chinese) but crucially, constructions do not express the opposite value of what we expect.

	Case- assignment	WCO	Anaphor binding	Parasitic gaps	Feeds A-mvt	Obligatory reconstruction
i)	×	✓	×	✓	×	✓
ii)	✓	×	✓	×	✓	×

TABLE 4.3: A'/A properties that pattern together

If there is only a two-way split in these values, even in composite derivations, then why do we call them "composite derivations" after all? We call them so because we find unexpected/ mixed values in the following properties: the restriction to nominals/ ϕ -goals, the lack of A-minimality, the presence of information-structural and clause-typing effects, and the ability to feed ϕ -agreement (as well as the property for movement to cross a CP boundary, but we will come to that later). In movement constructions that have been analyzed via [A'/A] probes, all four values are simultaneously present: the moved element must be a nominal/ ϕ -goal, it must involve information-structural or clause-typing effects, movement is not strictly A-minimal, and triggers ϕ -agreement. This is depicted in line i) of table 4.4. As a comparison, bare A-movement (e.g. English subject raising) would exhibit the values in line ii) whilst bare A'-movement (e.g. English wh-extraction) would come with the values in line iii). Crucially, and again, there is no random mix-and-match in these four properties; the three combinations in table 4.4 are the only ones we find.⁴

		Info-struct. effects	nominal/ ϕ -goal	ϕ -Agree	A-minimal
i)	A'/A	✓	✓	✓	×
ii)	A	×	✓	✓	✓
iii)	A'	✓	×	×	×

TABLE 4.4: Where the A'/A mixture roots in

One of the main claims of this thesis will be that only the properties listed in table 4.4 show the presence of an [A'/A] probe, whereas the properties in table 4.3 show whether the movement chain itself is an A- or an A'-chain. One last property, the ability for movement to cross a finite CP boundary, is unrelated to all of the above; it does not consistently correlate with either the values in table 4.3 nor the ones in table 4.4. In composite configurations, we find both the ability for movement to cross a CP boundary as well as the inability to do so. I will eventually tie this to the structural height of the movement inducing probe.

The goal of this chapter is to develop a syntax via which we can derive these empirical correlations. Particularly, I will propose that only a subset of the traditional

³We will see later in this chapter that there are fine-grained mismatches, particularly when it comes to reconstruction and minimality effects. For the sake of simplicity, we will set this aside for now.

⁴Note that some Hyperraising constructions sometimes exhibit subject restrictions, thus are A-minimal; I summarize them here as A'/A-minimal and show in section 4.9 how that can be derived via a combination of an A-movement chain, lack of [A'/A] on Voice and VoiceP pahasality.

A'/A properties truly track the quality of a movement chain, whereas other properties track the probing head or the location of the probe in the clausal spine. This is summarized in table 4.5.

i)	movement chain:	A' or A	$\Rightarrow$ <i>case-marking, antecedents for anaphor binding, WCO, PGs, feeding subsequent A-movt, reconstruction effects</i>
ii)	probing head:	[A'], [A], [A'/A]	$\Rightarrow$ <i>restriction to nominals, minimality effects, information-structural/ clause-typing effects, ϕ-agreement</i>
iii)	location of probe:	on C or below	$\Rightarrow$ <i>ability to cross CP</i>

TABLE 4.5: Three factors conditioning the A'/A distinction

I present a syntax in which a probing head may be [A], [A'] or [A'/A] but the movement chain it induces is either of type A or A'; there is no "mixed A'/A movement". An [A] probe always triggers A-movement, an [A'] probe always triggers A'-movement, whilst an [A'/A] probe may trigger either A'- or A-movement. This will render four possible combinations of probing head and movement chain. These four can further combine with the location of the probe: if the movement-triggering probe is located on C, it will allow long-distance movement across CP, irrespective whether this movement is an A'- or an A-chain.

We will end up with the statement that the classical A'/A distinction is determined by three syntactic properties: i) the movement chain itself, ii) the featural make-up of the probing head and iii) its location in the functional spine. Factors i)-iii) can combine in different ways, depending on the specific language and construction. Based on these three factors and the respective A'/A properties tracking them, I will show that composite [A'/A] probing is by no means chaotic or subject to anything-goes mix-and-match patterns. As soon as one has disentangled what A'/A property ties to what part of syntax, composite A'/A constructions behave in a highly systematic and predictable way. The claim underlying this proposal is that English A'- and A-movement exhibits only two possibility of how the factors i)-iii) can combine and does not depict the base-line configuration against which all languages must be measures. Other configurations in other languages exhibit different, equally predicted combinatorial possibilities of i)-iii), referred to as the language- and construction-specific A'/A *signature*. The empirical A'/A signature will be the content of the subsequent chapter 5. This chapter primarily focuses on a formal syntactic implementation for [A'/A] probes.

As a brief outlook on the analysis as well as the empirical data in chapter 5, let us compare topicalization in Dinka with topicalization in English. English topicalization is triggered by an [A'] probe on C, inducing A'-movement to SpecCP. The type of probe (bare [A']) triggers the following properties: its search is not restricted to nominals/ ϕ -goals but can target any element, the search is A'-minimal (that is, the probe finds the closest A'-goal), the moved goal exhibits information- structural effects (it is a topic) and does not trigger ϕ -agreement in its landing-site. The movement inducing [A'] probe is located on the phase-head C, thereby allows for long-distance movement of the goal to a higher clause. Last, the movement chain the [A'] probe triggers is A'-movement: thus, it does not have repercussions on case-assignment, it induces weak crossover, cannot create a new antecedent for anaphor binding, licenses parasitic gaps, cannot feed subsequent A-movement and reconstructs into its base-position. The properties are summarized in table 4.6.

case	WCO	anaph. bind.	PG	feeds A-mvt	recon- str.	info- struct. effects	DP/ ϕ - goal	feeds ϕ - agree	Mini- mality	can cross CP
×	✓	×	✓	×	✓	✓	×	×	A'	✓
<i>movement type: A'</i>						<i>probing head: [A']</i>				<i>probe on C</i>

TABLE 4.6: English topicalization

If we now look at Dinka topicalization, we see the following: Dinka topics are triggered by an [A'/A] probe on C, but involve an A-movement chain. The [A'/A] probe requires that the goal is a ϕ -goal, but is not restricted to the closest ϕ -goal (as long as there is a lower, better fitting goal), involves information-structural effects, and triggers ϕ -agreement at its landing-site. The [A'/A] probe is located on C, thereby allows for long-distance movement out of a CP clause. Last, the movement chain the [A'/A] probe invokes is A-movement: it feeds case-assignment, obviates weak crossover, can create a new antecedent for anaphor binding, can feed subsequent A-movement and does not need to reconstruct into its base-position (for principle C). The properties are summarized in table 4.7.

	case	WCO	anaph. bind.	PG	feeds A- mvt	re- con- str.	info- struct. effects	DP/ ϕ - goal	feeds ϕ - agree	Mini- mality	can cross CP
<i>Engl.</i>	×	✓	×	✓	×	✓	✓	×	×	A'	✓
<i>Dinka</i>	✓	×	✓	n/a	✓	×	✓	✓	✓	A'/A	✓
	<i>movement type: A' vs. A</i>						<i>probing head: [A'] vs. [A'/A]</i>				<i>probe on C</i>

TABLE 4.7: English versus Dinka topicalization

What we see in table 4.7 is that the first five properties exhibit the exact opposite values of each other. If Dinka expresses the exact opposite values of English A'-movement, it must be A-movement. We could now assume that Dinka topicalization simply behaves like English A-movement. This, however, is also not the case. English A-movement would pattern with Dinka in the movement properties (the first five of the table), but not in the probing properties; it would not necessarily involve information-structural effects, nor would it be able to skip an A-goal in its way (it would be A-minimal). Hence, the main source of "composite derivations" lies in the four properties of the table that track the probing head; information-structural effects, the restriction to ϕ -goals/nominals, ϕ -agreement and minimality effects.⁵

Expanding this comparison to other languages and constructions (particularly composite A'/A constructions), I will show that cross-linguistically, we find four attested ways in which A'- and A-properties can combine, listed in table 4.8 (setting aside the ability for long-distance movement now, which can combine freely with

⁵Note that Hyperraising appears to be A-minimal, contrary to what is indicated in this table. I discuss the (apparent) mismatches of minimality effects in [A'/A] probing in section 4.9 of this chapter.

any of the four).⁶ Below table 4.8, I list in which language/construction we find which combinatorial option.⁷

	<i>probe</i>	<i>mov type</i>	<i>feed case</i>	<i>WCO</i>	<i>anaph. bind.</i>	<i>PG</i>	<i>feed A- mvt</i>	<i>re- con- str.</i>	<i>info- struct. effect</i>	ϕ - goal	ϕ - Agr.	<i>mini- mal</i>	<i>can cross CP</i>
i	A'	A'	×	✓	×	✓	×	✓	✓	×	×	A'	✓
ii	A'/A	A'	×	✓	×	✓?	×	✓	✓	✓	✓	A'/A	varies
iii	A	A	✓	×	✓	×	✓	×	×	✓	✓	A	×
iv	A'/A	A	✓	×	✓	×	✓	×	✓	✓	✓	A'/A	varies

$\underbrace{\hspace{10em}}$
Movement type
 $\underbrace{\hspace{10em}}$
Probe type
 $\underbrace{\hspace{1em}}$
*on
C*

TABLE 4.8: Attested options for A', A and A'/A derivations

- i) English A'-movement (wh, top, foc, rel)
- ii) Long-distance agreement (chap. 6)
- iii) English A-movement (passives, subject raising)
- iv) Balinese, Malagasy promotion to pivot (chap. 7)
- Dinka extraction (chap. 8)
- Hyperraising to subject/object (chap. 6)
- Mandarin BEI passives & low topics/foci, Khanty passives (chap. 8)

TABLE 4.9: The A'/A distinction cross-linguistically

The aim of this chapter is to present an syntactic implementation of [A'/A] probes that can derive i) why a composite probe is restricted to ϕ -goals and information-structurally marked goals, triggers ϕ -agree and is able to skip an intervening DP (A'/A minimality), ii) how a composite probe may either induce A- or A'-movement and iii) why composite probes end up on different heads in the structural spine.

4.4 What is mixed and what is not

When it comes to composite [A'/A] probes, terminology is often unclear, leading to a lot of ambiguity with respect to what is mixed/composite and what is not. Researchers use the terms "composite [A'/A] probes", "composite [A'/A] probing", "composite A'/A positions" and "composite/mixed A'/A movement" interchangeably, often in a non-uniform way which conceals their exact theoretical presuppositions and leads to a vague, seemingly anything-goes impression of A'/A movement. To set the ground of this chapter, I start by introducing my terminology and making clear what terms I use for what operations in what parts of syntax, what I assume to be mixed and what not. I speak of a *composite A'/A derivation/configuration/construction* when a movement operation does not pattern with pure A'- or A-properties but exhibits a mixture of the two within one derivational

⁶Note, that in Hyperraising constructions, summarized under iv), there can occur some A'/A minimality distinctions. I will account for these in section 4.9.

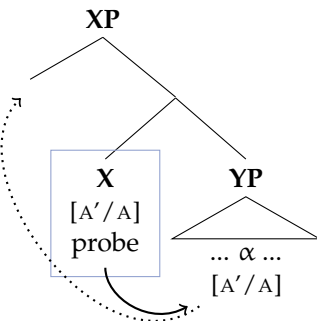
⁷Note that I am setting aside here cases where A'-extraction is restricted to the closest DP (Branan and Erlewine, 2020; Coon, Baier, and Levin, 2021, etc.). I assume that such cases exist but depict a language-specific restriction on A'-extraction or might in fact be cases of A-movement (Newman, 2023).

step (I use the terms "mixed" and "composite" interchangeably). Hyperraising, for instance, is a composite A'/A configuration, or promotion to pivot in Dinka, Balinese and Malagasy (see overview in chapter 2). When talking about an A'/A configuration, I do not refer to cases where an element first undergoes A- and then A'-movement and thereby shows "mixed" qualities (e.g. what has been proposed for German scrambling) or an A-operation happening parallel to an A'-operation (e.g. wh-object-extraction out of a subject raising structure). I use the term **composite** [A'/A] **probe** for a bundle of an [A'] and an [A] probe on one and the same head. **Composite** [A'/A] **probing** describes the search and agree process of such a probe. This means, what a composite [A'/A] probe does is composite [A'/A] probing (for a fitting goal). The instances of composite [A'/A] probing I investigate in this thesis trigger movement of the goal. Table 4.10 summarizes the terminology, the structure in (1) depicts how it relates to syntactic structure.

Composite A'/A configuration/derivation	A configuration exhibiting a mix of A'- and A-properties in a single movement step
Composite [A'/A] probe	A bundle of an A'- and an [A] probe on the same head
Composite [A'/A] probing	The search process of a composite [A'/A] probe

TABLE 4.10: A'/A Terminology

- (1) Composite A'/A configuration



As a clarificational note on what "A'/A goal" means here (elaborated in detail in section 4.6); I assume that composite probes always probe for fully matching goals. This means, an [A'/A] probe tries to find a goal with both corresponding (A' and A) features and triggers movement thereof. This brings us directly to the last terminological confusion: movement and landing sites. I propose that there is neither "composite A'/A movement" nor "composite A'/A positions". Phrasal movement is either of type A' or A and thereby lands in an A- or A'-position, irrespective of whether it was probed for by a bare or a composite probe.

4.4.1 Against composite A'/A positions

Traditional/positional accounts to the A'/A distinction propose that A'- and A- movement solely differ in the height of their landing sites: the CP domain constitutes an A'-position, hosting A'-movement, whereas positions in the inflectional and argument domain constitute A-positions, hosting A-movement. In a featural account

to A'- and A-movement it is not the mere structural height of a landing site in the clausal spine that defines its A'- or A-quality; rather, the properties of the movement-inducing head do. An A-movement inducing head creates an A-position whereas an A'-movement inducing head creates an A'-position; thereby, no position in the clausal spine is per default A' or A. [A'] and [A] probes can, in principle, occur on any head. Thereby, any specifier can, in principle, be an A- or A'-position (I refine this claim in the course of the thesis and elaborate on some ideas on the origin of composite probes in section 4.11; I assume that there is a default distribution of [A'] and [A] probes in the structure which can be loosened by [A'/A] probes). Now, what position is the specifier of a composite [A'/A] head? I suggest that it is not a composite A'/A position but either an A-position or an A'-position, depending on the movement chain the composite probe triggers. This implies that a composite probe may trigger either A'- or A-movement—which leads us directly to the next question: does "composite A'/A movement" exist? I claim that it does not. I suggest that composite probes induce either A'- or A-movement, but never composite A'/A movement. Thereby they either project an A'- or an A-position, never an "A'/A position".

4.4.2 Against composite A'/A movement

Following among others Sauerland, 1998; Ruys, 2000; Fox, 2002; Abels and Martí, 2010; van Urk, 2015; Bhatt and Keine, 2019, I assume that A'- and A-movement differ in their semantic derivation: A-movement abstracts over individuals whereas A'-movement abstracts over choice functions and thereby, the two create different kinds or predicates. In an A'-movement derivation, the A'-moved element is semantically interpreted as a quantifier and the trace it leaves behind as a choice function variable. The interpretation rule for A'-chains is formulated in van Urk, 2015 as (2).

- (2) *Interpretation rule for A'-chains* (van Urk, 2015: 40)
In a movement structure formed by Agree for an [A'] feature, adjoin a node λf to the probing head.

Note that the traditional notion for abstraction over choice functions was created for wh-movement. Assuming that A'-movement inducing features like [wh], [top], [rel], [foc] are hierarchically arranged on C (Rizzi, 2004; Abels, 2012b; Aravind, 2017), thereby constitute the same kind of feature class, van Urk, 2015 states that abstraction over choice functions should be applicable to all instances of A'-movement, including topicalization. This means, as soon as an [A'] feature induces movement, we get an abstraction over choice functions.

A-movement, on the other hand, abstracts over individuals; the interpretation rule for A-movement is formulated in van Urk, 2015 as (3). The trace (lower copy) of an A-moved element is converted to a definite description via *Trace Conversion* (Fox, 2002), thereby bound by the A-moved element (the higher copy). Along the lines of van Urk, 2015, I assume that as soon as an [ϕ] triggers movement, abstraction over individuals is induced.

- (3) *Interpretation rule for A-chains* (van Urk, 2015: 41)
In a movement structure formed by Agree for a ϕ -feature, adjoin a node λx to the probing head.

Only abstraction over individuals (A-movement) can bind variables, whilst abstraction over choice functions cannot. Further, given the different semantics of the two movement chains, they create two different types of predicates, which again has

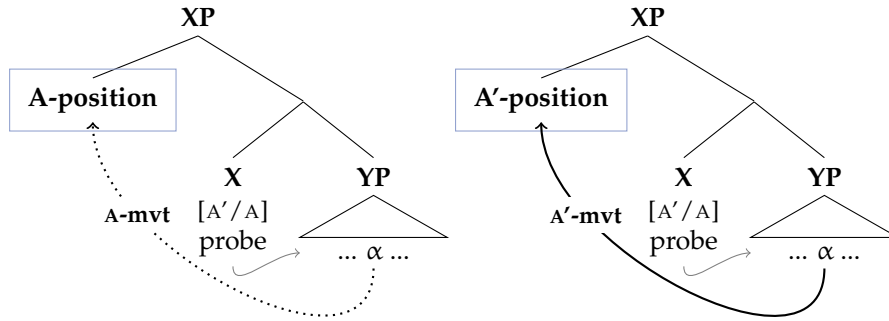
repercussions on how the predicate can be used in syntactic structure. What does this mean? This means that three hallmark properties of A'- vs. A-movement fall straightforwardly from the semantics of movement (following van Urk, 2015): weak cross-over effects, creation of new antecedents for anaphor binding and parasitic gap licensing. I briefly sketch out why below, more details can be found in chapter 5.

Weak crossover effects and the creation of new antecedents for anaphor binding root in the possibility of variable binding. Both the (possessive) pronoun in WCO as well as anaphors are variables. As only abstraction over individuals can semantically bind variables, only A-movement will be able to obviate WCO and create a new antecedent for variable binding. Reversed, if A'-movement abstracts over choice functions, it can never bind a variable in its c-commanding domain, since it is of the wrong semantic type to do so. van Urk, 2015 combines this with the licensing options for parasitic gaps: the two different semantic abstractions create different kinds of predicates. Only the type of predicate created by abstraction over choice functions can be conjoined with an adjunct containing a (parasitic) gap, whilst a predicated created by abstraction over individuals cannot. This is the case because conjunction needs to predicates of the same kind: an adjunct with a gap contains an operator that has moved to its left-edge. Operator movement is abstraction over choice functions, thus the adjunct predicate is the same as the one created by A'-movement. Only these two can be combined, licensing a parasitic gap.

Even though van Urk, 2015 uses the term "mixed A'/A movement", he states that movement must either be an abstraction over individuals or choice functions, thus it seems to be implicit to his account that movement is either A- or A'-movement. Being both at the same time is semantically not implementable, whence the quality of a movement chain itself needs to be either A' or A, never "composite". 2015 is vague about what determines whether an [A'/A] probe triggers either A'- or A-movement (that is, what defines the kind of abstraction), if this could vary across and within the same language and what other A'/A properties it could tie to. This is by no mean a weakness of his analysis but only expected as he solely looks at one [A'/A] probing language, Dinka, whose movement obviously only exhibits one combinatorial possibility of A'/A properties (just like English A'-movement does). Patterns in composite probing properties only become visible when investigated in a comparative way, which this thesis does. I conclude that what van Urk, 2015 refers to as "composite A'/A movement" in Dinka is, in fact, A-movement triggered by a composite [A'/A] probe. This statement, for the moment, looks like a pure terminological detail. I will show in the following, that it is not and that we need this terminological accuracy in order to understand why there is cross-linguistic variation in A'/A configurations and what it ties to.

To conclude, I state that a movement chain itself is always either A' or A, and so is the landing site it creates. The observed mixture of A'- and A-properties in an A'/A derivation do not stem from movement itself, but from the fact that the moved element is probed by an [A'/A] probe, and agrees with both [A] and [A'] features. How composite probes "decide" what movement chain they invoke is discussed in section 4.7. This claim implies, and I think this is implicit to many accounts but only seldomly explicitly stated, that in an [A'/A] probing structure, A-moved element can agree with an [A'] probe in its landing site as well as that A'-movement can trigger ϕ -agreement in its landing site. The respective structures are depicted in (4): a) shows an [A'/A] probe inducing A-movement and thereby creating an A-position, b) shows an [A'/A] probe inducing A'-movement and thereby creating an A'-position.

- (4) a) $[A'/A]$ triggers A-movement b) $[A'/A]$ triggers A'-movement



If the movement chain itself is either A' or A, this leads us to the question of how the Ban on Improper Movement relates to $[A'/A]$ probing. I suggest that it holds for composite $[A'/A]$ probing in the same way as it does for bare $[A']$ or $[A]$ probing; A'-movement cannot feed into A-movement.

4.5 $[A'/A]$ and the Ban on Improper Movement

That A'-movement can land in an position with (partial) A-properties sounds, at first sight, surprising, and at least like a partial a violation of the *Ban on Improper Movement*:

- (5) *The Ban on Improper Movement (BIM)* (paraphrased from Chomsky, 1973 *et seq*)
An A'-movement chain cannot feed an A-movement chain (in classical terms: movement from CP must land in CP, and cannot target TP)

I assume that the BIM is not a restriction on what properties a launching or landing site has or can have, but an independent constraint on what types of movement chains can feed into each other, summarized in ; what is prohibited is A'-movement feeding into A-movement.

- (6) *Movement chains regulated by BIM*
- | | | |
|----|-----------------------|--|
| a. | ✓ $A' \rightarrow A'$ | <i>e.g. Long-distance wh-movement in English</i> |
| b. | ✓ $A \rightarrow A$ | <i>e.g. Raising to subject in English</i> |
| c. | ✓ $A \rightarrow A'$ | <i>e.g. Raising feeding Wh-movement in English</i> |
| d. | ✗ $A' \rightarrow A$ | <i>Ban on Improper Movement</i> |

I do not aim to explain the exact origin of this restriction here. There have been different attempts to formalize the BIM (*a.o.* May, 1979; Lasnik and Saito, 1994; Müller and Sternefeld, 1993; Williams, 2002; Abels, 2007; Keine, 2016), out of which I will only highlight two, namely such that tie the BIM to constraints on operational ordering. First, Williams' 2002 *Generalized Ban on Improper Movement* which he derives from a parallel way of structure building in clausal embedding, also referred to as the *Williams Cycle*.

- (7) *The Generalized Ban on Improper Movement (GBOIM)*
Movement to $[Spec, XP]$ cannot proceed from $[Spec, YP]$ or across YP, where Y is higher than X in the functional sequence.

(Poole, 2023: 348; based on Williams, 2002)

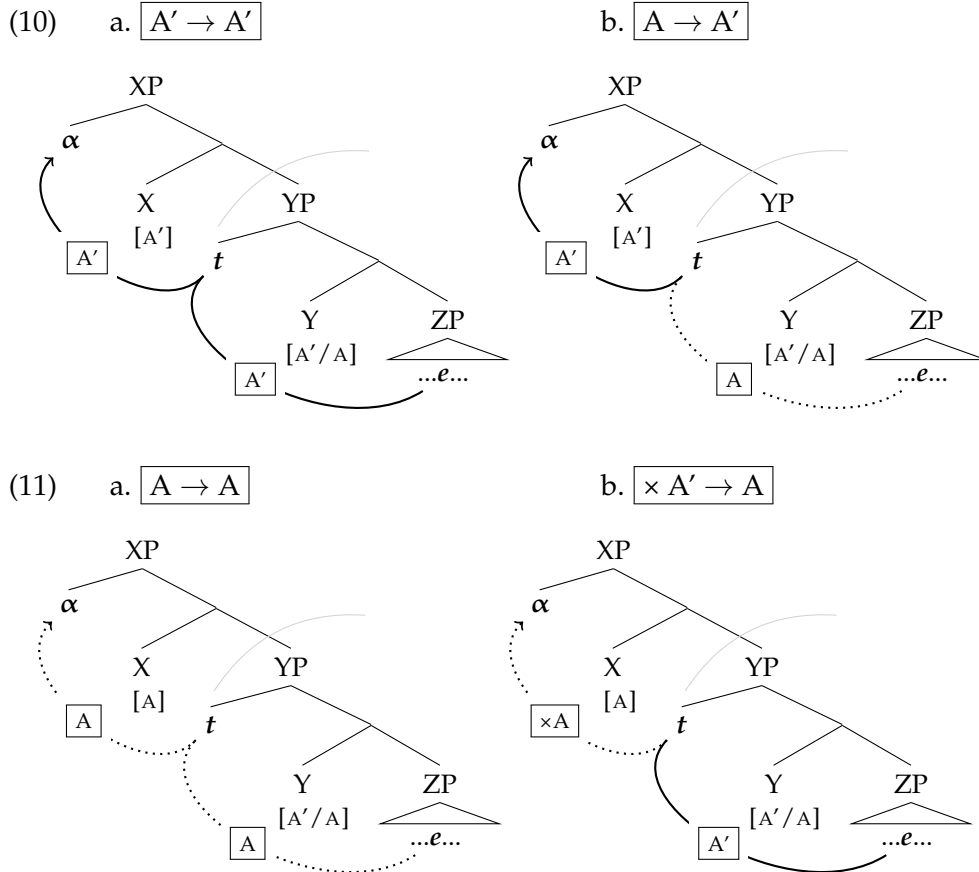
The Williams Cycle states that the functional sequence of an embedded and a matrix clause are built in a parallel fashion and conjoined at different stages of the building process. This means that first, both the voice domain of the embedded and the matrix clause are built, next each of the inflectional domains and last the information-structural domains. The embedded clause can be combined with the matrix clause at any point of this parallel derivation. Crucially, after the combination, the matrix clause can still be built to larger structure but the embedded clause cannot. Movement operations are restricted by this form of structure building; a movement operation can only target the same (e.g. embedded SpecTP to matrix SpecTP) or a higher position (e.g. embedded SpecTP to matrix SpecCP) of a functional sequence. Derivations where movement proceeds from a functionally higher specifier to a lower one (e.g. embedded SpecCP to matrix SpecTP) are ruled out, since movement happens simultaneous to the combination of the two parallelly built structures; if embedded CP is already built, movement can leave it but can no longer access matrix TP. The Williams Cycle stands out since it does not take the BIM as an independent constraint on movement operations, but as an epiphenomenon that falls from the way clauses are built (with the theoretical adaption that clausal embedding happens in a parallel fashion). He suggests that movement operations are timed with respect to each other, thus can only unidirectionally feed each other.

Abels' 2007 *Universal constraint on Operational Ordering in Language (UCOOL)*, tries to implement Williams' GBOIM in a way that is more compatible with the current minimalist theory of bottom-up clause building and embedding.

- (8) *Universal constraint on Operational Ordering in Language (UCOOL)*
 Movement operations are hierarchically ordered into $\theta \ll \mathbf{A}/\text{case} \ll \mathbf{Op}$. No constituent may undergo movement of type α if it has undergone movement of type β , where α precedes β under UCOOL. (Abels, 2007: 60,66)

UCOOL states that there is a universal hierarchy in which movement operations proceed. θ -related operations happen first, followed by case-related operations, followed by information-structural related operations (e.g. wh-extraction or topicalization). The BIM follows straightforwardly: if syntactic operations are ordered and a later operation cannot precede an earlier one, then A'-movement cannot feed A-movement. Abels, 2007 elaborates on some finer-grained distinctions within UCOOL, for example that scrambling takes a position in the hierarchy between θ and case or that operator movement is split into a hierarchy itself (cf. Rizzi, 1997, Abels, 2012b; Aravind, 2017). These refinements might become of importance later but right now are not directly relevant. Both, Williams' and Abels' accounts tie the BIM to broader restrictions on how structure building and syntactic operations proceed. I do think that this is the right way to approach the BIM and especially UCOOL is compatible with my theory of composite probing. Crucially, in line with Abels, 2007, I do not tie the BIM to specific landing- or launching-sites but to a timed ordering of movement operations. Assuming that movement operations are the result of a probing process, allows us to implement UCOOL into a framework of composite probes: one of the probes will trigger movement and depending on which part this is, the movement is classified differently (based on the UCOOL hierarchy) resulting in different options for subsequent movement. What remains noteworthy is that—to my knowledge—no account on composite [A'/A] probes deals with a proper syntactic implementation of the BIM. This section aims to fill this gap.

I have so far suggested that movement itself is either A or A' but can be triggered by an [A'/A] probe. This makes it more difficult to observe the BIM but crucially,



Having set our terminology, defined what is mixed and what is not, and how composite probing relates to the BIM, we may now proceed to a syntactic implementation of composite $[A'/A]$ probes. The following combines parts of existing A'/A analyses with novel additions, deriving a uniform syntax for $[A'/\phi]$ probes. This syntax will serve as the base to account for the empirical landscape of composite derivations cross-linguistically.

4.6 Fitting A'/A goals

It is commonly agreed upon that composite $[A'/A]$ probes aim for a fully fitting A'/A goal. This means, both parts of the composite probe take part in the search process and look for a goal that carries both an $[A']$ as well as $[\phi]$ features. van Urk, 2015; van Urk and Richards, 2015 refer to this search process as *Multitasking*, Scott, 2021b terms it *conjoined probing*. Scott, 2021b and Bárány, 2023 formalize conjoined probing for in terms of Deal's 2015 *Interaction and Satisfaction (INT+SAT)* framework (originally designed to capture ϕ -feature bundles). In INT+SAT, every probe has a set of features it is satisfied by (SAT) and a set of features it may interact with (INT). Only when encountering a goal that meets its SAT requirements, this goal can be agreed with. Scott, 2021b states that composite $[A'/A]$ probes come with the satisfaction condition $[A' \text{ AND } A]$; this means, they will only be satisfied by and agree with a goal that carries both an $[A']$ and an $[A]$ feature, not by a bare $[A]$ or $[A']$ goal. Note that Scott, 2021b, Bárány, 2023 (as well as Lohninger, Kovač, and Wurmbrand, 2022) suggest that there additionally exists another form of composite probing; disjunctive or dependent probing, in which the satisfaction condition

is [A' OR A]. Thereby, a disjunctive probe may be i) satisfied by a goal with a subset of the required features (Bárány, 2023) or ii) be blocked by a partly fitting goal (Scott, 2021b). Both i) and ii) make the wrong predictions about the configurations under discussion in this thesis: if a composite probe was satisfied by partly fitting goals, we would expect that it could agree with pure ϕ - or pure A'-goals. This is not the case: the kind of composite probing under discussion searches for goals which exhibit both ϕ -features (goals are restricted ϕ -bearing elements (DPs and complement clauses)) as well as [A'] features (goals need to be topics, foci, wh-elements or relativized elements).⁸ The prediction of ii) is that composite probes should be restricted to the closest goal that carries at least a subset of the features it requires, that is it should be sensitive to partial fits. This is not what we observe in the configurations under discussion: they may skip partial fits in favor of a full fit (see section 4.8 for further discussion). Disjunctive probes (sensitive to partial fits) are primarily used in analyses of A'-extraction restrictions, and usually involve [A'/D] probes (see chapter 2, section 2.6). I assume that [A'/D] probes regulating A'-extraction (restricting it to the closest DP) are most likely unrelated to the ones under discussion in this thesis. A last kind of probing mechanism that has been suggested for [A'/A] probes is independent probing (Scott, 2021b; Lohninger, Kovač, and Wurmbrand, 2022; Lohninger and Yip, 2023). In independent probing, the two parts of the composite probe may search for and agree with two independent goals. In this thesis, I argue that independent probing is a last-resort mechanism of composite probing when no full fitting goal can be found (see section 4.10). (12) summarizes the probing options that have been reported for composite probes.

(12) *Types of composite probes*

Scott, 2021a; 2021; Lohninger, Kovač, and Wurmbrand, 2022

a.	Conjoined probing: SAT: A' and A	searches for a full fit
b.	Disjunctive probing: SAT: A' or A	sensitive to partial fits
c.	Independent probing: SAT: A', SAT A	finds two separate goals

For the [A'/A] probes under investigation, I apply a conjoined probing mechanism, as in (12a). Such a probe i) only agrees with a goal that fits both its A'- as well as A-part and ii) is insensitive to partially fitting goals.⁹ In more formal terms, such a probe involves an unvalued [ϕ] and an unvalued [A'], both in need of a counterpart [ϕ] and [A']. An [A'/ ϕ] probe needs a goal that carries both [ϕ] features and [A'] features: this means, the goal needs to be a ϕ -bearing element (that is usually a nominal and in some cases a CP or TP) and simultaneously has to involve an [A'] feature (either in the form of an information-structural feature like being a topic of a focus, or as clause-typing alternation, such as being a wh-element or involve relativization). If an [A'/A] probe finds a goal that fulfills both these requirements, it is satisfied by it, thereby can agree with it and trigger movement thereof. The movement itself is then either of type A or A'. Let us continue by addressing this claim: how does a mixed [A'/A] probe "decide" or "know" whether it A- or A'-moves its goal?

⁸Although see section 4.10 for a discussion of last resort independent probing where [A'/A] can be satisfied by a bare A'- or A-goal when no full match is available.

⁹One could notate this search process as *[A'/A]* or, more accurately *[A'/ ϕ]* (for which A' may be [rel], [top], [foc], or [wh]), along the lines of Heck and Müller, 2007.

4.7 $[A'/A]$ and movement

This section aims to answer the question is why and how composite $[A'/A]$ probes sometimes trigger A-movement and other times A' -movement. I claim that in each composite $[A'/A]$ probing process, only one of the sub-parts ($[A]$ or $[A']$) can be the trigger for movement. This means, while both parts of the $[A'/A]$ probe search for a goal in unison, only one part will induce movement. I assume that all features (irrespective of whether they are $[\phi]$ or $[A']$) can be merged as *strong* or *weak* features (Chomsky, 1991; 1995; Müller, 1999). Strong features induce movement of the agreed-with goal, weak features do not. One way to model the strength of a probe, that is whether it induces movement or not, is to add an $[EPP]$ sub-feature to it. I propose that any feature $[F]$ may be merged with a second-order feature $[EPP]$, which requires the probe's specifier to be filled with the agreed-with element. Bare $[F]$ may establish an agreement relation, but only $[F^{EPP}]$ triggers movement of the agreed-with goal to its specifier (Zaenen, Maling, and Thráinsson, 1985; Yip, Maling, and Jackendoff, 1987; Marantz, 2000; McFadden, 2004; Wurmbrand, 2006; Sigurðsson, 2009).¹⁰ I notate $[F^{EPP}]$ as $[\bullet F \bullet]$ (following the terminology in Heck and Müller, 2007; Müller, 2010; Georgi, 2014; Longenbaugh, 2019 who use $\bullet$ for structure-building features).¹¹ Both $[A']$ as well as $[A]$ features may be merged as $[\bullet A' \bullet]$ or $[\bullet A \bullet]$. In a composite probe, either one of the two features may be merged with $[EPP]$. Hence, a composite probe can either come as $[\bullet A' \bullet / A]$, $[A' / \bullet A \bullet]$ or $[A' / A]$ (the latter one does not induce movement at all). Depending on what feature carries the movement triggering EPP-property, the movement chain will be of type A' or A and, respectively, will create an A' - or A -landing-site. The combinatorial options for composite probes are summarized in (13) and schematically depicted in (14).

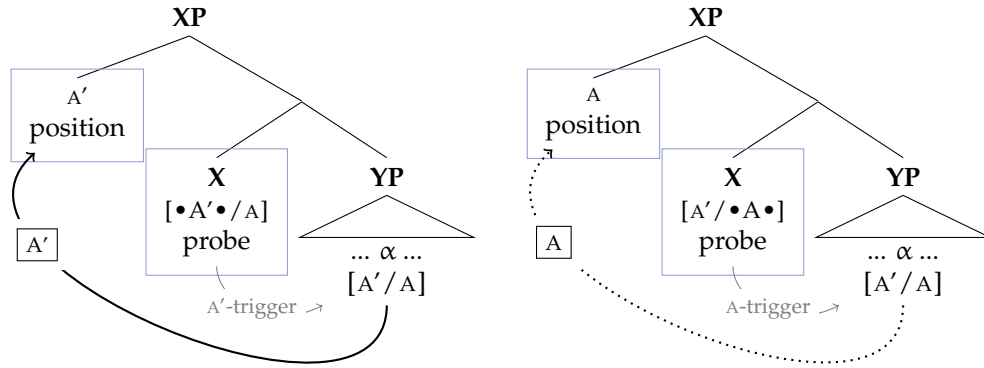
(13) *Composite probes and their movement chains*

- a. $[\bullet A' \bullet / \phi] \Rightarrow$ triggers A' -movement (abstraction over choice functions)
- b. $[A' / \bullet \phi \bullet] \Rightarrow$ triggers A -movement (abstraction over individuals)
- c. $[A' / \phi] \Rightarrow$ does not trigger movement

¹⁰Note that in this thesis, I take $[EPP]$ to always be a second-order feature of either $[\phi]$ or an $[A']$ feature. However, there might be instances where $[EPP]$ occurs independently of either $[A]$ or $[A']$; for a discussion see chapter 3.

¹¹I am uncertain whether an $[A'/A]$ probe can also externally merge an argument; given that I propose it may split up and search for two independent goals as a last resort option, this suggests that it cannot; I leave a final answer to this question open for future research.

- (14) a. $[\bullet A' \bullet / A]$ triggers A' -movement b. $[A' / \bullet A \bullet]$ triggers A -movement



4.7.1 $[A'/A]$ triggers A -movement

The $[A]$ part of the composite probes discussed in this thesis is a $[\phi]$ probe, and, given what we know so far, can be merged in two versions: as a strong, movement-triggering feature, $[\bullet \phi \bullet]$, or as a bare agreement feature, $[\phi]$, not triggering movement of its goal, summarized in (15).

- (15) **The $[A]$ part of a composite probe**
- a. $[\bullet \phi \bullet] \Rightarrow$ triggers A -movement, serves as ϕ -agreement site
 - b. $[\phi] \Rightarrow$ does not trigger movement but serves as ϕ -agreement-site

If a composite probe is merged with a movement-inducing ϕ -feature, as $[A' / \bullet \phi \bullet]$, the movement chain it induces is A -movement and creates an A -position.¹² The A -moved goal will thereby abstract over individuals, both in terminal as well as intermediate movement steps (van Urk, 2015). Thus, it is able to bind a variable from its landing site (i.e. obviate WCO and create new antecedents for anaphor binding) and will not license parasitic gaps (the relation between the semantics of the movement chain and variable binding/PGs is discussed again in chapter 5). Further, a goal attracted by $[A' / \bullet \phi \bullet]$ may feed into subsequent A -movement without violating the BIM. Last, movement attracted by $[A' / \bullet \phi \bullet]$ will create an A -position as the goal's landing site; there, the goal is visible to the dependent case algorithm, and may be assigned morphological case. I assume that A -movement per se is independent of case-licensing; that is, A -movement is not movement FOR case and both licensed and unlicensed nominals may undergo A -movement (see also chapter 3). However, A -movement generates A -positions and A -positions are fed into the dependent case-algorithm. Thereby, morphological case-assignment tracks whether a nominal has been A - or A' -moved. Lastly, a goal attracted by $[A' / \bullet \phi \bullet]$ does not need to reconstruct into its base-position. Reconstruction effects are commonly explained with the option to late-merge a nominal in its landing site (e.g. Takahashi and Hulse, 2009). Late-merge is only allowed positions associated with nominal licensing, and I assume that only A -positions can be correlated with nominal licensing (see also chapter 5 for the relation between reconstruction and A -positions). Put together, we expect a goal that has been attracted by an $[A' / \bullet \phi \bullet]$ probe to exhibit the following properties:

¹²See chapter 3 for the relation of A -movement and ϕ -agreement and how to account for splits between the two

- (16) *Movement induced by an [A'/• Φ •] probe will...*
- a. ... **obviate WCO, create new antecedents for anaphor binding, not license parasitic gaps**
 $\hookrightarrow$ A-movement is abstraction over individuals
 - b. ... **feed subsequent A-movement**
 $\hookrightarrow$ BIM does not interfere
 - c. ... **receive case-marking in its landing site**
 $\hookrightarrow$ the dependent case algorithm runs on A-positions
 - d. ... **not need to reconstruct**
 $\hookrightarrow$ the nominal can be late-merged in its A-landing site

The reason why I assume that even in [A'/A] probing the movement chain is not mixed is because the values for WCO, PGs, obligatory reconstruction (usually for principle C), case-assignment and feeding further A-movement are always consistent in the languages under discussion: empirically, there is no mix and match amongst these properties (see table 4.2 from above). This means, movement either feeds case-assignment, obviates WCO, does not license PGs,¹³ feeds subsequent A-movement and does not need to reconstruct for interpretation—or vice versa. These are the two distributions of values we find empirically; they are summarized in table 4.11. A configuration where the properties of table 4.11 combine in any other way than option i) or ii) is unattested (note that single values may always be missing, e.g. in a languages that does not express overt case, but never be opposed to what we expect).

	<i>probe</i>	Case- as- signment	WCO	Anaphor binding	Parasitic gaps	Feeds A-mvt	Obligator. recon- struction
i)	[•A'•/A]	×	✓	×	✓	×	✓
ii)	[A'/•A•]	✓	×	✓	×	✓	×

TABLE 4.11: A'- and A-movement properties

Thus, movement appears to be either of type A' or type A, not mixed. Hence, from the movement chain itself (that is, from the properties case-assignment, WCO, PGs, subsequent A-movement and reconstruction effects), we do not see whether a probe was bare or composite; we only see whether movement was A' or A. Where we see that a composite probe is involved (instead of a bare one) is from other properties: if movement was induced by a composite [A'/ Φ] probe, the attracted goal needs to comply with both A'- and A-requirements of the probe. This means, it will induce information-structural or clause-typing effects (the goal needs to be a topic, a focus, a wh-element or involve relativization) and movement will be restricted to nominals/ Φ -goals (see also section 4.6). Further, the moved goal is able to cross intervening DPs, irrespective of its movement chain (see also section 4.8). Last, probing will have repercussions on Φ -agreement, independently of whether the goal was A'- or A-moved. The properties of a construction induced by an [A'/• Φ •] probe are summarized in table 4.12. We find this distribution in Dinka extraction, Mandarin Chinese and Khanty passives, Mandarin Chinese low foci/topics, Balinese/Malagasy promotion to pivot and Hyperraising constructions.

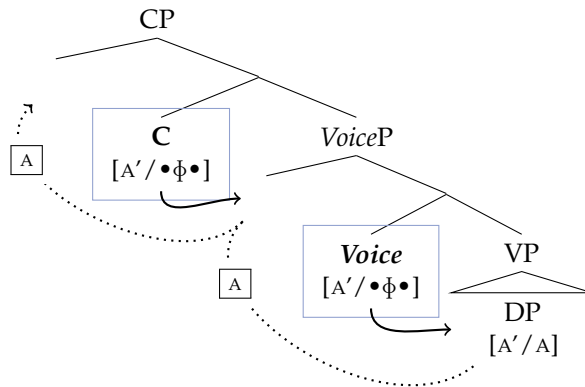
¹³Note that the database for parasitic gaps is quite scarce, thus this property is rather stipulated/predicted than properly attested.

case	WCO	anaph. bind.	PG	feeds A-mvt	(Re-constr.)	Info-struct. effects	restr. to ϕ -goals	ϕ -Agree/Case	Minimality
✓	×	✓	×	✓	×	✓	✓	✓	A'/A
$\underbrace{\hspace{10em}}_{A\text{-movement}}$					$\underbrace{\hspace{10em}}_{[A'/A]}$				

TABLE 4.12: A'/A triggers A-movement

Take as an example Malagasy or Balinese promotion to pivot. Along the lines of van Urk, 2015, I assume that in both languages, C and Voice carry an $[A'/A]$ probe. Voice (specifically, object/patient voice) is merged with $[A'/\bullet\phi\bullet]$ and thereby triggers A-movement of an embedded goal to SpecVoiceP. From SpecVoiceP, the goal becomes visible to C, which carries $[A'/\bullet\phi\bullet]$ and A-moves the goal to SpecCP. The configuration exhibits exactly the empirical properties we expect: promotion to pivot obviates WCO, does not license parasitic gaps, may feed subsequent A-movement, lacks reconstructions effects (in most cases) and feeds case-assignment. Simultaneously, it involves information-structural effects (topicality), is restricted to ϕ -goals (nominals), interacts with agreement whilst at the same time it is not restricted to the highest DP. The structure is depicted in (17).

(17) *Balinese/Malagasy promotion to pivot via $[A'/\bullet\phi\bullet]$*



4.7.2 $[A'/A]$ triggers A'-movement

The A'-part of a composite probe consists of an operator-related feature, either specified for a certain form of A'-goal ($[wh]$, $[rel]$, $[foc]$, $[top]$)¹⁴ or introduced as a flat $[A']$ probe (Abels, 2012a; Abels, 2012b) that can attract any A'-goal (topics, foci, wh-elements, rel-elements). For the sake of simplicity, I usually use $[A']$ and thereby mean a flat $[A']$ (unless it is relevant for the derivation that it is a specific kind of $[A']$ feature). Just like the $[A]$ feature, the $[A']$ feature may be merged with an $[EPP]$ -subfeature; in such cases, it induces A'-movement of its goal. This is true for both bare $[A']$ probes as well as such that are parts of a composite probe.

(18) **The $[A']$ feature of a composite probe**

a. $[\bullet A' \bullet] \Rightarrow$ triggers A'-movement

¹⁴Potentially also $[\delta]$ (Miyagawa, 2010) However, Miyagawa, 2010 suggests that $[\delta]$ does not necessarily induce A'-movement.

- b. $[A'] \Rightarrow$ does not trigger movement (but still partakes in the selection of the goal)

If an $[A'/A]$ probe is merged with a strong $[A']$ feature and a weak $[A]$ feature, $[\bullet A' \bullet / \phi]$, it induces A' -movement, thus creates an A' landing-site. The movement chain such a probe triggers abstracts over choice functions. Thereby, it induces weak crossover, cannot bind an anaphor from its landing site, and licenses parasitic gaps. The BIM rules out that such movement feeds subsequent A -movement. Last, as the landing site is an A' -position, it does not take part in the dependent case-algorithm, thus the moved nominal does not receive morphological case at the landing-site. Further, movement typically reconstructs, as it cannot be late-merged in an A' -position. (19) summarizes the properties; all of them are discussed in more detail in chapter 5.

- (19) *Movement induced by an $[\bullet A' \bullet / \phi]$ probe will...*
- ... induce WCO, does not create new antecedents for anaphor binding and license parasitic gaps**
 $\hookrightarrow A'$ -movement is abstraction over choice functions
 - ... not feed subsequent A -movement**
 $\hookrightarrow$ ruled out by the BIM
 - ... not receive case-marking in its landing site**
 $\hookrightarrow$ the dependent case algorithm only runs on A -positions
 - ... need to reconstruct**
 $\hookrightarrow$ the nominal cannot be late-merged in an A' -landing-site

Even if the movement chain is A' , if the goal was probed by an $[\bullet A' \bullet / \phi]$ probe, it must carry both a matching $[A']$ and $[A]$ features. This means, it must be a topic, focus, wh-element or relativized element, whilst at the same time constitute a ϕ -goal. The $[A'/A]$ probe may skip an intervening DP (but as long as it lacks $[A']$, see section 4.8). Last, the A' -moved goal may undergo ϕ -agree in its landing site, since the probing head involves a ϕ -feature. The properties of a construction induced by a $[\bullet A' \bullet / \phi]$ probe are summarized in table 4.13.

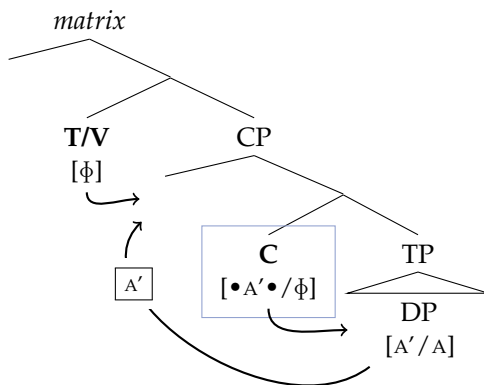
case	WCO	PG	feeds A-mvt	(Re- constr.)	Info- struct. effects	restr. to ϕ -goals	ϕ - Agree	Mini- mality
x	✓	✓	x	✓	✓	✓	✓	A'/A
A' -movement					$[A'/A]$			

TABLE 4.13: A'/A triggers A -movement

Whilst constructions involving $[A'/\bullet A \bullet]$ seem to be more frequent in the languages investigated in this thesis, I suggest that $[\bullet A' \bullet / \phi]$ probes exist too. I propose that one example for such probes is found in long-distance agreement (LDA) configurations in Innu-Aimûn, Passamaquoddy and Tsez (for the detailed analysis, see chapter 6). In LDA configurations, embedded C carries a $[\bullet A' \bullet / \phi]$ probe (see also Mursell, 2020; 2021; and to some extent Grishin, 2023). The A' -part of the probe may be [top], [foc] or [wh], depending on the exact language (Mursell, 2020); the structure below demonstrates LDA via $[\bullet A' \bullet / \phi]$. The attracted goal has A' -moved to SpecCP, its $[A']$ feature is licensed there. I propose that the presence of an $[\phi]$ -feature on C

allows the goal in SpecCP to be accessible to matrix ϕ -agreement.¹⁵ What the $[\phi]$ feature on C does is, it mediates agreement between the matrix verb and the element in its specifier (Mursell, 2021). In a way, this is a form of cyclic agreement (see also Butt, 1995; Legate, 2005; Lahne, 2008; Preminger, 2009); $[\phi]$ on C mediates the agreement relation between matrix $[\phi]$ and the A'-moved LDA.DP in embedded SpecCP. Obata and Epstein, 2011 suggest that only the features in which a probe has agreed with remain visible for further operations; even though I do not fully pursue this line of argumentation, in this case it would mean that the presence of $[\phi]$ on C and the fact that it was involved in the search process of the DP (and agrees with it) keeps this DP "visible" for further ϕ -agreement with a higher probe. Put differently, the A'-moved goal in SpecCP is only available for matrix ϕ -agreement since it has been probed by a composite probe; not if it would just have been attracted by a bare $[A']$ probe to SpecCP. Even though the matrix ϕ -probe can ϕ -agree with the embedded DP, it cannot trigger subsequent A-movement thereof: this would violate the BIM. I assume that ϕ -agreement may proceed over distance (restricted by phases) and does not necessarily involve movement (following Bobaljik and Wurmbrand, 2005); thus the matrix $[\phi]$ probe may agree with the DP in SpecCP. The proposed structure is presented in (20), a more detailed investigation and analysis can be found in chapter 6.

(20) Long-distance agreement via $[\bullet A' \bullet / \phi]$



Note that I draw on is a dissociation between nominal licensing, case and ϕ -agreement. ϕ -agreement is handled via probes alone, independent of the movement chain the goal underwent. Nominal licensing is not done via ϕ -agreement but happens in certain structural positions. Morphological case-assignment, on the other hand, is derived via a dependent case-algorithm which draws on A-positions. Only A-movement can form A-positions, thus only A-movement can feed into case. ϕ -agreement can happen as soon as a $[\phi]$ probe is involved in probing; often, these cases also involve A-movement. In the framework proposed in this thesis, however, there is one instance where the movement chain is A' and still feeds ϕ -agreement; namely such induced by a $[\bullet A' \bullet / \phi]$ probe. Note that these probes appear to be much rarer than $[A' / \bullet A \bullet]$ probes. There could be different reasons for this, one of them being that it could simply be the case that this construction has not invoked much interest among the $[A' / A]$ researchers; its empirical profile is not as interesting

¹⁵In LDA, ϕ -agreement is not visible on the C head itself but only on the matrix verb. I suggest that this is the case because LDA languages do not in general allow complementizer agreement, thus have no available morphology to allow for C to agree with the LDA.DP in its specifier.

as $[A'/A] + A$ -movement. $[A'/A] + A'$ -movement looks like regular A' -movement with two "add-on" properties; it triggers ϕ -agreement at the landing-site and targets only ϕ -goals. It could very well be the case that there is a form of wh-agreement or complementizer agreement that fulfills this profile but simply has not been described in terms of $[A'/A]$ probing yet.

4.7.3 Combinations of movement triggers

I assume that within a composite probe, only one of the two features may be merged as a movement-inducing probe. A combination like $[\bullet A' \bullet / \bullet \phi \bullet]$ is illicit in regular instances of composite probing (but may be found in independent probing, discussed in section 4.10). I assume that if an $[A'/A]$ probe finds one and the same goal, there can only be one movement trigger per composite probe; otherwise, the probe cannot decide whether to A - or A' -move its goal. I suggest that if in a language (or on a given head) both $[A']$ and $[\phi]$ are merged as movement-inducing probes, then UCOOL (Abels, 2007) places the trigger on the hierarchically lower feature (or removes it from the higher one). Abels, 2007:69 states that "X may not undergo a less urgent (higher) operation unless all the more urgent (lower) ones have been completed. Similarly, [...] X may not undergo a less urgent (higher) operation if any of its parts still have more urgent business to do". Higher and lower operations are defined in terms of his universal constraint on operational ordering in language (UCOOL); ϕ -operations precede operator movement, thereby the option for A -movement should get superiority over A' -movement.

- (21) *Universal Constraint on Operational Ordering in Language* (UCOOL)
 Movement operations are hierarchically ordered into $\theta \ll A / \text{case} \ll Op$.
 (Abels, 2007: 60)

Following UCOOL, $\text{case}/[\phi]$ -related operations are lower on the operational hierarchy, and happen earlier in the derivation; in his terms they are "more urgent" than Op -related operations. Thus, a composite probe in which both $[A']$ and $[A]$ are merged as strong features, $[\bullet \phi \bullet]$ will get priority for triggering movement. The probe will operate as $[A' / \bullet \phi \bullet]$, inducing A -movement. Thereby, only the three combinatorial options listed in (22) emerge:

- (22) **Composite probe combinations**
- a. $[\bullet A' \bullet / \phi] \Rightarrow$ triggers A' -movement
 - b. $[A' / \bullet \phi \bullet] \Rightarrow$ triggers A -movement
 - c. $[A' / \phi] \Rightarrow$ does not trigger movement (irrelevant for now)

So far I suggested that an $[A' / \phi]$ probe always looks for a goal in unison (termed *Multitasking* in van Urk and Richards, 2015); it may only agree with a goal carrying $[A']$ and $[A]$ features (termed *Conjoined probing* in Scott, 2021b) (last-resort independent probing is discussed in section 4.10). If a composite probe found a fully fitting goal, and one of its features is merged strong (with an [EPP]-sub-feature), the composite probe will trigger movement of the goal. What kind of movement this will be (A' or A) depends on which feature is merged strong: if the $[A']$ feature is merged strong ($[\bullet A' \bullet / \phi]$), the goal undergoes A' -movement. If the $[A]$ feature is merged strong ($[A' / \bullet \phi \bullet]$), the goal A -moves.

Irrelevant for this thesis, but mentioned for the sake of completeness, are composite probes where both features are merged without [EPP] (as weak features) and the composite probe thus is $[A' / \phi]$. Such probes might be found in agreement

patterns that are sensitive to information structure, as is for example found in object agreement in Bembe (Iorio, 2015), Chichewa (Bresnan and Mchombo, 1987), Swahili (Seidl and Dimitriadis, 1997; Mursell, 2018), Zulu (Buell, 2005; Adams, 2010; Halpert, 2012; Zeller, 2012; 2014; 2015), Itelmen (Bobaljik and Wurmbrand, 2002), Tigrinya (Kifle, 2012); see also Bány, 2023 for a comparative investigation. These cases are not directly relevant for this thesis but show that in theory, any combination of strong and weak $[A']$ and $[A]$ features is possible in composite probing.

4.8 Relativized A'/A minimality

This section is concerned with the question of minimality effects in composite probing. This means, whether composite probes are sensitive to intervening, partially fitting goals (like bare ϕ -goals) and if such goals block movement of a lower, fully fitting A'/A goal (defective intervention). I suggest that composite probes are not sensitive to partial fits and may skip intervening DPs; the apparent minimality effects we find in some composite probing constructions derive from VoiceP phasality, the location of the composite probe and the movement chain it induces.

Whenever a head bundles more than one probe, one must ask whether this probe bundle sees goals that fit only one of its features or may skip such goals. If it sees partially fitting goals, and may not skip them to agree with a lower (better fitting) goal, this probe is sensitive to *defective intervention*. If it may skip partial fitting goals in favor of a lower, fully fitting goal, the probe is insensitive to defective intervention. For an $[A'/A]$ probe, a bare $[A]$ or $[A']$ goal would be a partial fit whereas a full A'/A goal depicts a full fit.

- (23) (*Defective*) *Intervention for $[A'/A]$ probes* (adapted from Bruening, 2014: 707)
 If an $[A'/A]$ head seeks a matching goal to agree with or attract, but some other goal intervenes and blocks agreement/attraction
- a. **Simple intervention:** the intervening DP is itself eligible for agreement or movement (= an intervening A'/A goal)
 - b. **Defective intervention:** the intervening DP constitutes a partial fit and is thereby not eligible for agreement or movement itself but blocks probing beyond it (= an intervening A- or A' -goal)

We can put defective intervention also in terms of minimality: as we saw in chapter 2, pure A-movement (attracted by a bare $[A]$ probe) is always A-minimal: it is restricted to the highest nominal/ ϕ -goal of a clause and may not cross another nominal on its way. Example (24) repeats A-Minimality from English.

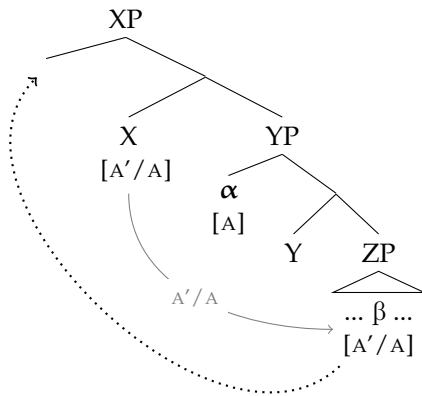
- (24) a. **David** seems [*t* to have eaten the cookies]
 b. ***The cookies** seem [David to have eaten *t*]

A-minimality is accounted under the assumption that English A-movement is induced by bare $[A]$ probe. This $[A]$ probe will find the closest ϕ -goal (the subject) and attract movement thereof: there is no way in which it could skip it. Thereby, A-movement in English is A-minimal.

If, however, an $[A]$ probe bundles together with an $[A']$ probe, the question is, will this probe obtain the the minimality profile of a bare $[A]$ probe or not? In intervention terms, will it be able to look across a bare ϕ -goal or not? Along the lines of van Urk, 2015; Longenbaugh, 2017; Scott, 2021b; Chen, 2023, I suggest that a composite $[A'/A]$ probe is not A-minimal; it is able to skip a bare ϕ -goal in favor

of a lower, better fitting goal, irrespective of what movement chain it induces. This has the following implication: if an $[A'/A]$ probe attracts A-movement ($[A'/\bullet A\bullet]$) whilst at the same time it is insensitive to defective intervention, it may induce a configuration in which A-movement crosses a nominal on its way up. This is what we find in composite probing, depicted in (25) where a bare ϕ -goal α is a partially fitting goal for $[A'/A]$ and may be skipped in favor of the better fitting, lower goal β ; β is then A-moved across α .

(25) *Movement triggered by $[A'/A]$ can skip an intervening DP*



Thereby, $[A'/A]$ probes are neither A-minimal, nor A'-minimal, but A'/A minimal. This is based on feature-based concepts of locality, building on *Relativized Minimality* (Rizzi, 1990) and *Attract Closest* (Hornstein, 1999), defining "closeness" in terms of fitting goals:

(26) *Relativized Minimality* (Rizzi, 1990, *et seq*)
A syntactic relation R must involve the closest XP capable of entering into R.

Under the assumption that composite probes search and agree in unison, i.e. conjointly (that is, have a satisfaction condition $[A' \text{ AND } A]$ (Scott, 2021b; see section 4.6), only an XP that bears both $[A']$ and $[A]$ features is "capable of entering into a relation R" with $[A'/A]$. A bare $[A]$ or $[A']$ goal would not be capable to satisfy the composite probe, thus can be ignored. I suggest that this is the case for both $[\bullet A' \bullet /A]$ as well as $[A'/\bullet A\bullet]$ probes and implies that, if the composite probe is merged as $[A'/\bullet A\bullet]$, A-movement can be non A-minimal.

An example for A'/A minimality comes from Mandarin Chinese low topicalization which involves A-movement triggered by an $[A'/A]$ probe on Voice (adapted from Chen, 2023).¹⁶ The agreed-with goal (*book*) may cross the intervening DPs *Zhang* and *Wang* on its movement path; this shows that the movement attracting probe is not restricted to the closest ϕ -goal (which would be *Zhang*) but to the best match (which, in this case, is the lower *book*).

(27) *Li (lian) zhe-ben shu (dou) bi Zhang jiao Wang kan-guo t*
Li (even) this-CL book (DUO) force Zhang order Wang read-EXP t

¹⁶Chen, 2023 suggests that the $[A'/A]$ probe is located both on Voice as well as on a TP-internal Foc/Top head which constitutes the final landing site of the goal; for the sake of simplicity, I use Voice as probing head for now; see chapter 8 for her exact analysis.

‘Li, (even) this book_i, once forced Zhang to order Wang to read (it_i).’
Mandarin Chinese (Chen, 2023: 103)

Chen, 2023 shows that low topicalization in Mandarin Chinese exhibits properties of A-movement: it obviates WCO, creates new antecedents for anaphor binding and does not need to reconstruct for principle C (see chapter 5 for the empirical data). Thereby, Mandarin Chinese low topicalization is an instance of non A-minimal A-movement. Put differently, it is movement induced by a $[A' / \bullet A \bullet]$ probe which is able to search beyond partial fits for a full match. If A' / A movement was sensitive to partially fitting goals/ defective intervention, the derivation in (27) should be ungrammatical since the intervening DPs (all carrying a subset of the relevant features, namely $[\phi]$) would intervene for the $[A' / A]$ probe to agree with a lower goal. A similar case of A' / A minimality can be found in Dinka, shown in example (28), where an $[A' / A]$ probe on C attracts a theme to SpecCP, which crosses two partially fitting goals on its way to SpecCP: the agent (*man*) and the applicative (*Ayen*).¹⁷ This derivation is only grammatical if we assume that $[A' / A]$ on C can probe across a partial fit.

- (28) Yè ɲó cǐ mōc yîɛɛn Àyén t
 be **what** PRF.OV man.GEN give.NF Ayen t
 What has the man given Ayen? *Dinka* (van Urk, 2015: 162)

Another prediction of A' / A minimality is that if there are two fitting A' / A goals in the composite probe's search space, it will be restricted to the higher one. This prediction is borne out, as we see for example in Mandarin Chinese BEI-passives. Chen, 2023 suggests that in Mandarin BEI passives, Voice carries an $[A' / A]$ probe; in my terms a $[A' / \bullet A \bullet]$. Just like Mandarin lows topics above, Mandarin BEI passives are not A-minimal, visible from ditransitive constructions: either the closer indirect object or the further away direct object can serve as a goal for $[A' / A]$ on Voice (depending on which one depicts the better fitting goal), shown in (29).

- (29) *Mandarin Chinese ditransitive passive* (Chen, 2023: 68)
 a. *Zhangsan bei gaozhi-le t zhe-jian shi*
Zhangsan BEI inform-PRF *t this-CL matter*
 ‘Zhangsan was informed about this matter (but not that matter).’
 b. *Zhe-jian shi bei gaozhi-le Zhangsan t*
this-CL matter BEI inform-PRF *Zhangsan t*
 Lit. ‘This matter was informed Zhangsan about.’

If, however, both the direct object and the indirect object are topics, that is if both carry an $[A' / A]$ probe, only the higher DP (the indirect object *Zhangsan*) can serve as goal for $[A' / A]$ on Voice. Attracting the lower (direct) object becomes ungrammatical in such cases. In (30a), the indirect object (*Zhangsan*) is attracted by $[A' / A]$ on Voice, whereas the lower object (*this matter*) A'-moves to a higher topic position. If we try to reverse this, that is make the lower theme *this matter* the goal of $[A' / A]$ on Voice whilst the indirect object *Zhangsan* becomes a regular topic, this results in ungrammaticality, shown in (30b).

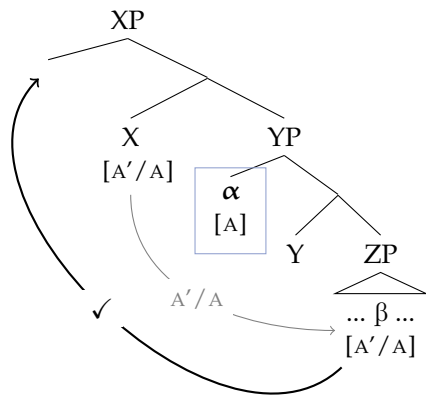
- (30) *A' / A minimality in Mandarin BEI passives* (Chen, 2023: 69)

¹⁷Note that van Urk, 2015 points out that in these cases, the theme might be base-generated above the applicative, thereby movement would only cross the agent, but not also the applicative; see chapter 8 for an in-depth discussion.

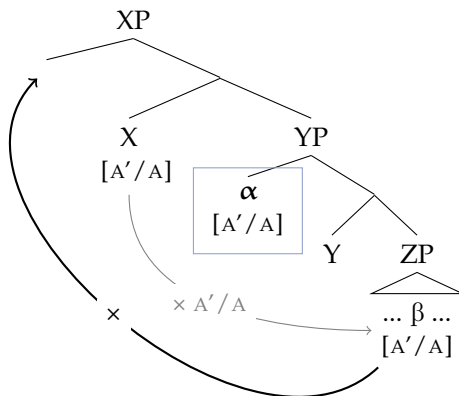
- a. *Zhe-jian shi* (er bu-shi na-jian shi), *Zhangsan bei* (wo)
 this-CL matter (but not-be that-CL matter) Zhangsan BEI (1SG)
gaozhi-le *t* *t*
 inform-PRF *t* *t*
 'This matter (but not that matter), Zhangsan was informed about (it) (by me).'
- b. **Zhangsan* (er bu-shi Lisi), *zhe-jian shi* bei (wo) *gaozhi-le* *t* *t*
Zhangsan (but not-be Lisi) this-CL matter BEI (1SG) inform-PRF *t* *t*
 Int.: 'Zhangsan (but not Lisi), this matter was informed (him) about (by me).'

The ungrammaticality of (30b) can be accounted for straightforwardly under relativized A'/A minimality: if both the higher indirect object and the lower direct object constitute A'/A goals, the [A'/A] probe on Voice must pick the closer one (the indirect object) and cannot skip it in favor of a lower, equally fitting goal (the direct object); this is exactly what we expect from A'/A minimality. The respective structure is depicted in (31). (31)a) shows that [A'/A] probing across a partial fit is possible, whereas (31)b) demonstrates that [A'/A] probing across an A'/A goal is ungrammatical (= A'/A minimality).

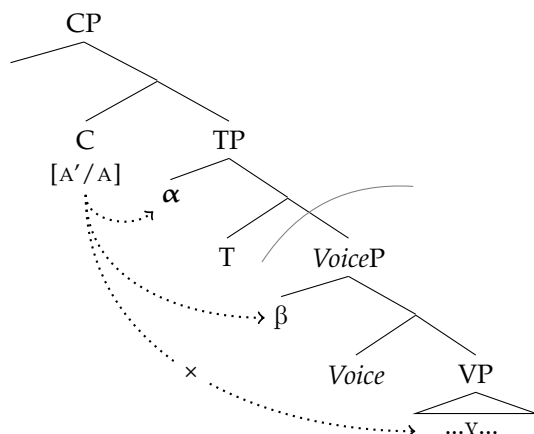
(31) a. [A'/A] probing across partial fit



b. *[A'/A] probing across full fit



A brief note on phasality is necessary here (see also chapter 3 for detailed elaboration): I embed A'/A minimality/conjunctive probing in a framework of CP and VoiceP phasality, the phase impenetrability condition and successive-cyclic movement. Thereby, the search space of every probe is restricted to its own phase and the left-edge of the phase below it. C, for instance, is able to find and attract anything down to SpecVoiceP, shown in (32), where the [A'/A] probe on C can find α and β but not γ , as the latter is embedded in the VoiceP phase.

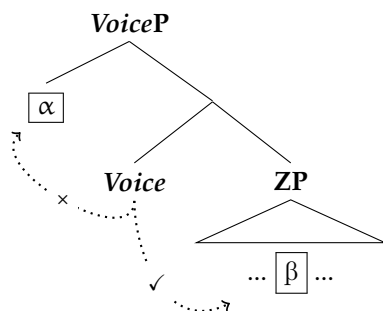
(32) *Probing restricted by CP and VoiceP phases*

The inaccessibility of γ is derived by the *Phase Impenetrability Condition*, making phases impermeable for probing into- and movement out of them as long as an element is not located on the uttermost left edge of the phase.

- (33) *The Phase Impenetrability Condition (PIC)* (Chomsky, 2001: 14)
 The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.

In (32), the element β sits on the edge of VoiceP and thereby is accessible to C. Thus, depending on what carries the better fitting set of features, C could enter an agree relation with either α or β (we are ignoring for a moment that usually, SpecVoiceP and SpecTP are not filled by two distinct elements). If both α and β depict fitting A'/A goals, C will agree with the closer one, α . In any case, C may not attract γ , irrespective of whether it is a fitting goal or not; it is too deeply embedded inside the VoiceP phase and thereby not accessible for C.

Note that I adopt a c-command approach to search and probing processes; a probing head can only look downwards into the domain it c-commands and not into its specifier. This is mainly relevant for probes on Voice, as SpecCP is usually not filled with an externally merged element in its specifier (unless we are looking at high base-generation). In a regular probing setup, as in (34), a head Voice can find β (or ZP) or anything below until the next phasal edge. It cannot find α in its specifier.

(34) *A probe can search in its c-command domain*

Put together, I propose that [A'/A] probes are A'/A minimal, but their search process is restricted by VoiceP and CP phasality. In the next section, I suggest that composite probes can be located on either one of the two phase heads (C and/or

Voice) and show that instances of apparently A-minimal [A'/A] probing can be derived purely via VoiceP phasality without having to resume to defective intervention as an additional restriction on [A'/A] probes.

4.9 Locations of [A'/A] in the functional spine

This section discusses how phasality and successive cyclicity interact with composite probing, how composite probes can be distributed along the structural spine and how this derives the attested minimality and locality profiles we find in composite derivations. My syntactic preliminaries for this section are the following: i) both VoiceP and CP are phasal and can, independently from each other, carry [A'/A] probes, ii) all movement leaving a phase needs to pass through the phasal left edge (SpecCP or SpecVoiceP), iii) all movement, intermediate or terminal, is triggered by Merge and Agree (i.e. a probing head), iv) all movement, intermediate and terminal, is sensitive to the BIM, v) if a phasal head (Voice or C) projects two specifiers, both count as phase-edge and allow movement to the next higher clause.

4.9.1 The puzzle: A-minimality and A-movement across CP

The aim of this section is to solve the following puzzle: some composite derivations seem to be A-minimal (restricted to the subject DP) whereas others are not. Further, some composite constructions allow A-movement to span a CP boundary, whereas others do not. The data is summarized in table 4.14.

	A-minimality	A-mvt across CP
<i>Hyperraising</i>	✓	✓
<i>Dinka, Balinese, Malagasy</i>	×	✓
<i>Mandarin Chinese, Khanty</i>	×	×

TABLE 4.14: A-Minimality and long-distance A-movement

Let me demonstrate the variation with Romanian Hyperraising and Balinese promotion to pivot; for both I assume that they exhibit an [A'/A] probe on C: Balinese on all Cs, Romanian on embedded C in Hyperraising contexts. Romanian Hyperraising is restricted to the embedded subject, shown in (35). Contrary, Balinese promotion to pivot can target either the subject or the object, see (36). Both languages allow long-distance A-movement out of an embedded clause; in Romanian, the DP is moved to a matrix object position, in Balinese, promotion to pivot can feed further raising and long-distance promotion to pivot (see also chapter 7).

(35) *Romanian Hyperraising* (Alboiu and Hill, 2016: 256, 268)

- a. *L-am auzit pe Mihai [că t repară casa].*
 him-have.1SG heard DOM Mihai [C t fixes house.the]
 'I've heard that Mihai is fixing the house.'
- b. **Am auzit-o pe Mioara [c-a invitat Gelu t].*
 have.1SG heard-her DOM Mioara [C-has invited Gelu t]
 Int.: 'I heard from Mioara that Gelu invited her.' (own paraphrase)

(36) *Balinese promotion to pivot* (Arka, 2003: 5)

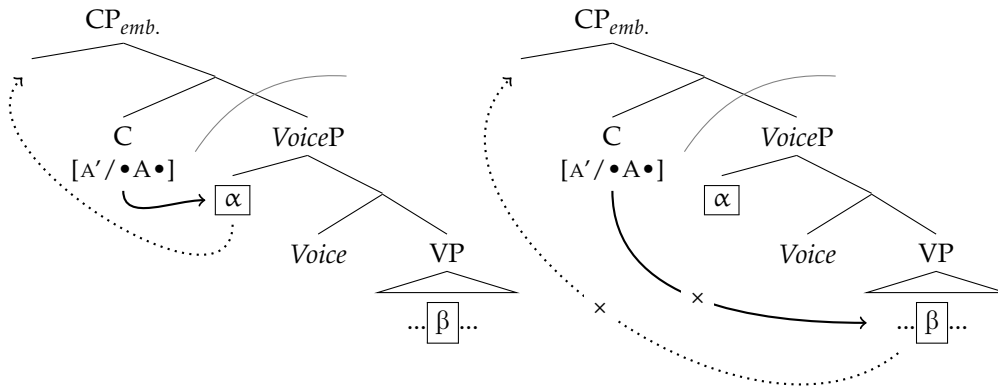
- a. *Tiang n-umbas bawi-ne punika*
 1SG AV-buy pig-DEF that
 'I bought the pig.'

- b. *Bawi-ne punika t-umbas tiang t*
 pig-DEF that OV-buy 1SG t
 'The pig, I bought.'

I suggest that the pattern in table 4.14 has nothing to do with defective intervention of the $[A'/A]$ probe, but is a result of i) the occurrence of $[A'/A]$ probes on either CP or VoiceP (independent from each other, ii) VoiceP phasality, iii) BIM and iv) the movement chain a composite probe triggers. I first walk through how my analysis derives the pattern in table 4.14. In the end of this section, I contrast my phase-based account with an alternative approach that derive A'/A minimality effects by defective intervention. I will conclude that, even though such accounts make the right predictions for $[A'/A]$ on C, they fail to explain the behavior of $[A'/A]$ on Voice.

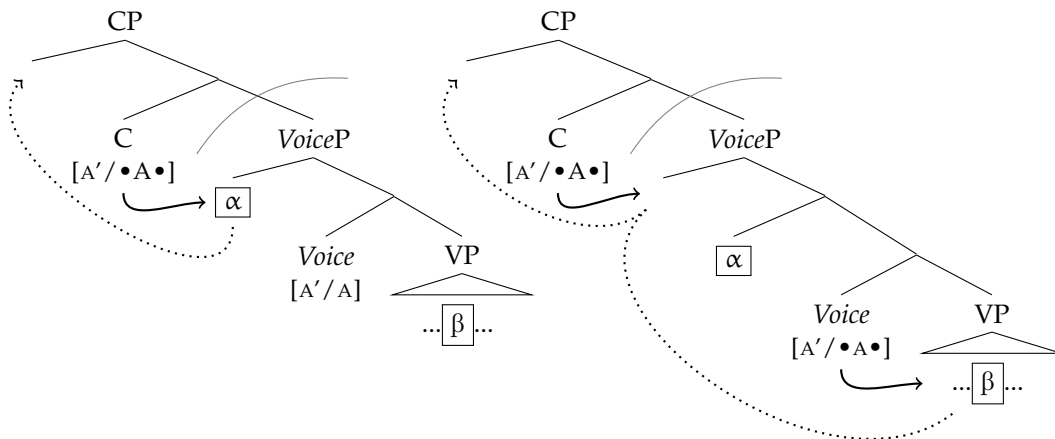
Apparent A-minimality Let us start with the first question, that is why some $[A'/A]$ probes appear to be restricted to subjects, whereas others are not. As we saw above, Hyperraising to object in Romanian is restricted to the embedded subject but Balinese promotion to pivot is not. Assuming that both Romanian as well as Balinese involve composite $[A'/A]$ probes on C (in Romanian only on embedded C, in Balinese on all C heads), we would expect similar minimality profiles for their goals, contrary to what we observe. I argue that both $[A'/A]$ probes are A'/A minimal, but this is sometimes obscured by the phasal status of Voice. Let us assume that both languages, $[A'/\bullet A\bullet]$ on C probes for the best match, insensitive to partial fits. The difference between the two languages does not tie to the minimality profile of the probe on C, but to the presence (or absence) of an additional $[A'/A]$ probe on Voice: Romanian exhibits $[A'/\bullet A\bullet]$ solely on (embedded) C, whereas Balinese carries $[A'/\bullet A\bullet]$ on both C and Voice. With VoiceP being phasal, $[A'/A]$ on C can only look as far as SpecVoiceP in both languages. In Romanian, only the external argument/ subject occurs in (or above) this position and thereby C will only find the subject DP. The respective structure is depicted in (37) (note that the structure in (37) only shows the embedded clause; the DP in SpecCP undergoes further A-movement to a derived object position inside matrix VP). The tree on the left shows how $[A'/A]$ on C can access the subject in SpecVoiceP. The tree on the right shows how it cannot access an object that is embedded inside VoiceP. Note that, if a language has an independent mechanism of A-moving the object out of VoiceP, it can be targeted by $[A'/A]$ on C, see later in this section.

- (37) *Romanian: $[A'/\bullet A\bullet]$ only on (embedded) C, only subject α is accessible*



In Balinese, on the other hand, the additional $[A'/\bullet A\bullet]$ on Voice can A-move an object to SpecVoiceP, and thereby make it accessible to $[A'/\bullet A\bullet]$ on C. The structure is depicted in (38): the tree on the left shows how $[A'/A]$ can find the subject in SpecVoiceP, the tree on the right shows how $[A'/A]$ on Voice can attract an object in an initial step and thereby make it accessible to $[A'/A]$ on C.

- (38) *Balinese: $[A'/\bullet A\bullet]$ on C and Voice, subject α and object β are accessible*

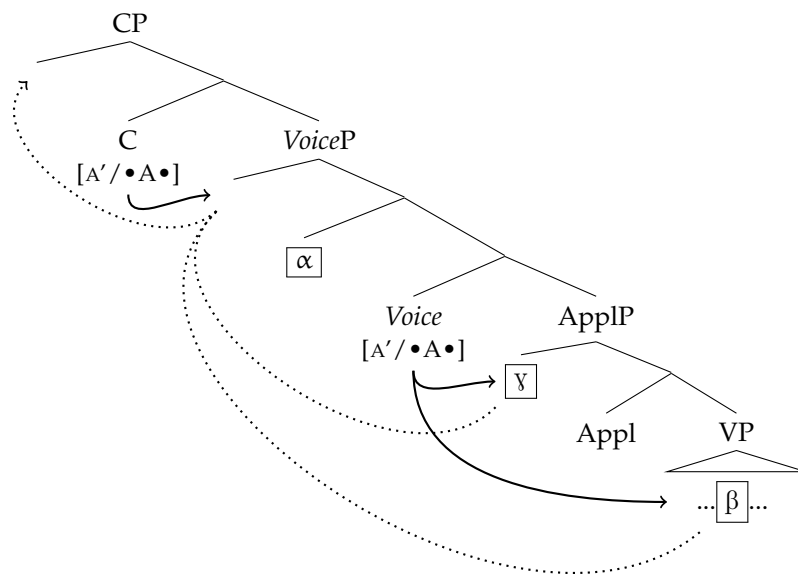


Phasality combined with different locations of $[A'/A]$ probes derives the different minimality profiles of the two languages, without drawing on defective intervention. This becomes fully evident if we look in more detail at configurations with $[A'/A]$ on Voice (e.g. Balinese) and observe them in the context of ditransitives. In an applicative ditransitive, $[A'/A]$ on Voice has two DPs in its search space, the direct object (the theme) and the indirect object (the applicative). If $[A'/A]$ on Voice was sensitive to partial fitting interveners, we would expect that it may only attract the closer DP, that is the indirect object. Attracting the lower theme would be blocked. If the $[A'/A]$ probe on Voice is A'/A -minimal (as suggested in this thesis), thus not sensitive to partial fits, we predict that it can in principle find both, the indirect and direct object. If an indirect object is a bare ϕ -goal, it can be skipped in favor of a lower A'/A theme. This prediction is borne out: in Balinese (39), either the indirect object (*Nyoman*) and direct object (*money*) can be promoted to pivot.

- (39) *Balinese* (own elicitation; based on Arka, 2003: 25)
- a. *Pipis baang tiang Nyoman t.*
money OV.give 1SG Nyoman t
 'The money, I gave to Nyoman.'
- b. *Nyoman baang tiang t pipis.*
Nyoman OV.give 1SG t money
 'Nyoman, I gave the money.'

The respective structure is presented in (40) and shows that either one of the two objects could move to SpecVoiceP (and from there be further attracted by [A'/A] on C). Note that the structure in (40) is schematic; it aims to show that either one of the two objects may undergo fronting (not both of them simultaneously).

- (40) *Balinese ditransitives*



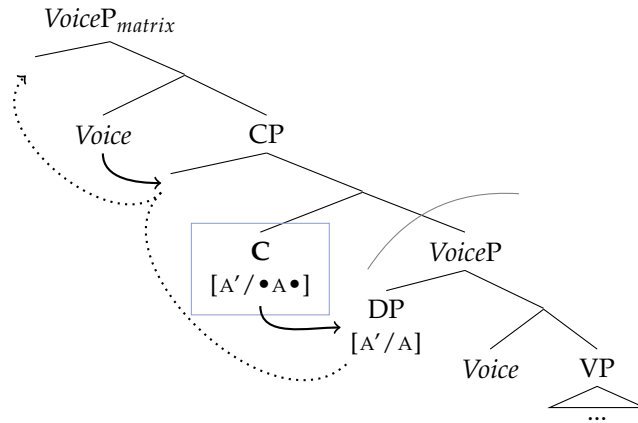
Long-distance A-movement The second property of the interplay of different A'/A heads and C/Voice phasality is the locality profile of A'/A triggered movement. If an [A'/A] probe sits on a phasal head, e.g. C, it triggers movement to SpecCP; this movement may be A'- or A-movement, depending on which feature of the probe is merged as movement trigger. In SpecCP, the goal becomes visible to higher probes and can undergo further movement, leaving the CP. If [A'/A] on C is merged as [A' / •A•], this means, embedded A-movement can feed into matrix A-movement. Traditionally, A-movement is confined to CP but A'-movement is not. I propose that this has nothing to do with A-movement per se but with the location of [A] probes: they are, per default, not located on C. C usually only carries a [A'] features. Thus, any element that leaves CP has to first be attracted by [A'] on C and A'-moves to SpecCP. Only from there, it is high enough to move into the higher clause (= PIC). However, since it has A'-moved to SpecCP, the BIM prohibits that the next (matrix) movement step is A; thereby, embedded A-movement can, in most cases, not cross a CP boundary. If, however, C is merged with an A-movement triggering probe, it can trigger A-movement to SpecCP, which then, in a further A-movement step,

can leave CP (without violating the BIM). This is what we observe, for example, in Dinka long-distance A-movement or Hyperraising configurations: A-movement leaves a fully finite CP, mediated by $[A'/\bullet A\bullet]$ on embedded C, shown in (41). There, the embedded object (*every man*) has moved out of the embedded clause to the matrix SpecCP and from there can bind a variable embedded in the matrix agent (*his wife*), not resulting in a WCO violation. Thus, A-movement can span across a CP clause boundary. This is possible since $[A'/\bullet A\bullet]$ is located on the phase head C. It A-moves its goal to SpecCP from where it becomes accessible to a matrix $[A]$ probe, and can undergo subsequent matrix A-movement without violating the BIM.¹⁸

- (41) *Mòc ɛbɛ_i à-yíí tiéɛŋ-dè_i luêeel [ɛ t thét]*
man every 3S-HAB.OV woman-SG.3SG say.NF [C t cook.AV]
 ‘Every man_i, his_i wife says is cooking.’ *Dinka* (van Urk, 2015: 110)

The respective structure is depicted in (42), showing how $[A'/A]$ on C mediates cross-clausal A-movement.

- (42) $[A'/A]$ on C mediates cross-clausal A-movement



4.9.2 $[A'/A]$ on different heads

I suggest that languages can exhibit $[A'/A]$ probes on C and/or Voice; their distribution is independent from each other. This means, if C carries $[A'/A]$, this does not condition Voice to do so to, and vice versa. I suggest that this is the case as $[A'/A]$ probes can enter the structure in different ways (see section 4.11), thus do not need to be a parametric choice of all phase heads in a language but can occur local and construction-specifically. In the following, I illustrate the different versions and combinations of $[A'/A]$ probes on C, and Voice, what languages and configurations this is relevant for, and how it makes the correct predictions about the variation in A-minimality and long-distance A-movement we find in composite derivations. A summary of claims is given in table 4.15.

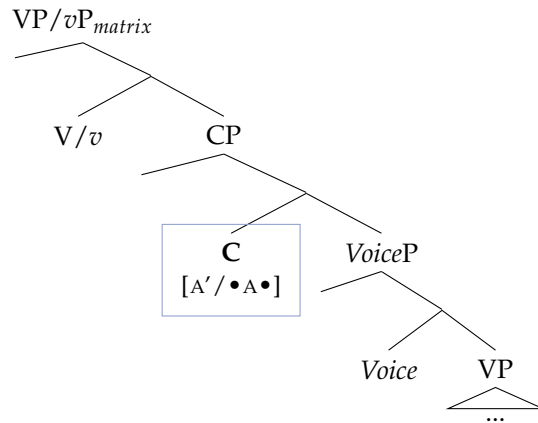
¹⁸Note that van Urk and Richards, 2015 present an analysis in terms of phase unlocking for this construction which I discuss in chapter 8.

	A-minimality	A-mvt across CP	[A'/A] on
<i>Hyperraising</i>	✓	✓	C
<i>Dinka, Balinese, Malagasy</i>	×	✓	Voice+C
<i>Mandarin Chinese, Khanty</i>	×	×	Voice

TABLE 4.15: A-Minimality and long-distance A-movement

[A'/A] on C

Languages exhibiting [A'/A] only on C are such that allow Hyperraising to subject or object as well as long-distance agreement. Their basic structure of Hyperraising is depicted in (43). In brief, I suggest that in Hyperraising constructions the following happens: [A'/A] on C A-moves the subject to SpecCP, from where it becomes accessible to a matrix [A] probe and is attracted to a matrix argument position (in Hyperraising to subject to the matrix subject position, in Hyperraising to object to a matrix (derived) object position). The fully analysis can be found in chapter 6. In LDA, almost the same happens, with the exception that C does carries an [$\bullet A' \bullet / A$] probe, thus induces A'-movement instead of A-movement. For the moment, I focus on Hyperraising (involving cross-clausal A-movement).

(43) *[A'/A] only on C*

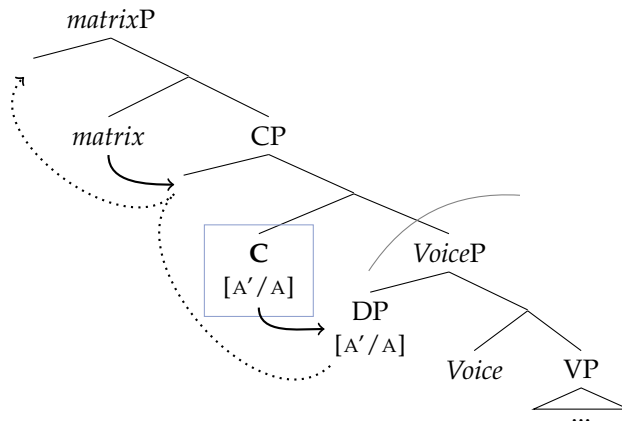
The presence of [$A' / \bullet A \bullet$] on C (and the absence of [A' / A] on Voice) predicts two things: i) an apparent restriction to the subject DP as a goal, since all others possible goals are embedded under the VoiceP phase (labeled "apparent A-minimality") and ii) the possibility of long-distance A-extraction, mediated by [A' / A] on C.

- (44) a. ✓ apparent A-minimality
b. ✓ can cross CP boundary

The apparent A-minimality restrictions we find in Hyperraising contexts were already discussed above and are repeated here for clarity. Most Hyperraising languages exhibit a subject-restriction, that is, only the highest embedded A-element can undergo movement to the higher clause. This follows if we assume that only embedded C carries a composite probe in these languages. [A' / A] on C searches for an A'/A goal but, given the phasality of VoiceP below it, can only look as far as SpecVoiceP. There are different options for what can happen: in the optimal scenario, the external argument is equipped with the fitting features (A' / A), thereby serves as a match and can enter an agreement relation with [A' / A] on C. In such cases, we get a successful Hyperraising derivation: the A'/A goal moves to SpecCP

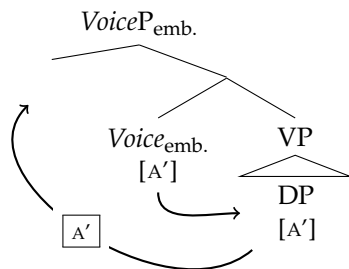
and becomes visible for a matrix probe (be it pure $[A]$, pure $[A']$, or mixed $[A'/A]$) and can undergo further movement into the matrix clause, shown in (45) (note that this structure lacks some projections (e.g. TP or matrix VP) and the exact landing site is kept vague; this is solely for the sake of clarity, a detailed discussion can be found in chapter 7).

(45) *Hyperraising via $[A'/A]$ on C*



Option two is that the external argument does not carry the relevant set of features, i.e. it lacks an $[A']$ feature. In such cases, the derivation fails (or the language has a last-resort mechanism to salvage it; see section 4.10 for language-specific options like independent probing of $[A'/A]$ probes). The third option is that Voice had A' -moved an internal argument to its specifier—such operations are always possible. Along the lines of Abels, 2012a, van Urk, 2015, I assume that every phase head in general can carry a flat $[\bullet A' \bullet]$ probe in order to allow for successive-cyclic A' -movement.¹⁹ If embedded Voice carries an $[A']$ probe, a potential goal (e.g., a wh-object) would be attracted to SpecVoiceP; it would carry all relevant features for $[A'/A]$ on C. The structure of such a derivation is shown in (46): Voice is merged with a flat $[A']$ probe (but lacks a composite $[A'/A]$ probe or a movement inducing $[A]$ probe). If it finds an $[A']$ goal, it A' -moves it to VoiceP. This is the regular first step of any kind of pure A' -extraction.

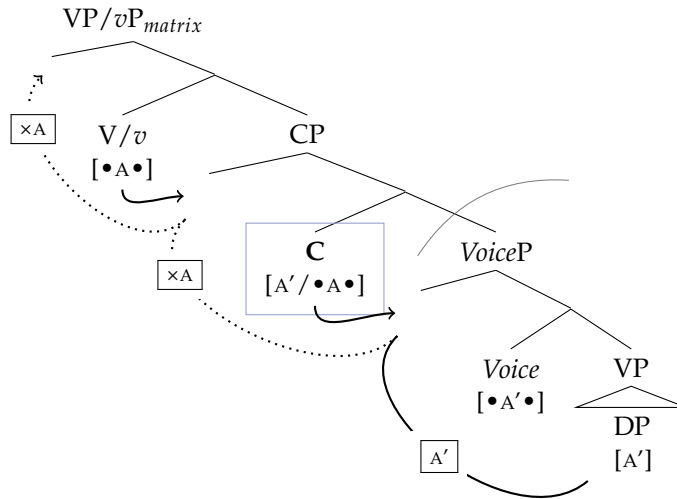
(46) *Regular successive-cyclic A' -movement via VoiceP*



¹⁹I assume that $[\bullet A \bullet]$, different from $[\bullet A' \bullet]$, is only merged on certain phasal heads (e.g. passive Voice, unaccusative v , Voice with an implicit agent—e.g. in Voice restructuring contexts), see also chapter 3. "Regular" transitive Voice heads are usually merged without $[\bullet A \bullet]$ (as this would always allow the object to front over the subject). There are some transitive Voice heads merged with $[\bullet A \bullet]$; I assume that this is reflected in a form of non-canonical passive or in the form of an $[A'/A]$ probe—as discussed in this thesis.

If then C is merged with an $[A' / \bullet A \bullet]$ probe (as it is in Hyperraising constructions), the A' -moved object in SpecVoiceP is, in principle, within its search domain. However, BIM excludes that it can A-move further to SpecCP, since it already underwent an A' -movement step to SpecVoiceP. $[A' / A]$ on C attracting an object thus does not fail because of a probe-goal-mismatch between C and the object goal at SpecVoiceP, but is ruled out by the independent BIM, prohibiting an A' -chain feeding an A-chain, shown in (47).

(47) Initial A' -movement step cannot feed further Hyperraising



In Hyperraising constructions, the embedded Voice head does not carry $[A' / A]$; it is usually a regular Voice head, thus not merged with $[•A•]$ or $[A' / \bullet A \bullet]$. As I pointed out in chapter 3, I assume that a regular unergative or transitive Voice head is not standardly merged with $[•A•]$; $[•A•]$ only comes with a certain subset of heads (e.g. passive Voice, unaccusative v , Voice with an implicit agent, etc.) which cannot license their embedded argument and need to allow A-movement to a higher position. Thereby, a Voice head which introduces an overt agent usually does not have a way of A-moving an object to SpecVoiceP; thereby, the BIM will always rule out $[A' / A]$ on C attracting the object. This predicts that if a language has an independent way to A-move an object out of VoiceP (e.g. via A-scrambling), such an object should feed Hyperraising, that is it should serve as a goal for $[A' / A]$ on C without violating the BIM. This prediction is borne out: in Nez Perce Hyperraising to object, an embedded object (*children*) can A-scramble out of VoiceP and thereby become the target of $[A' / A]$ on C, undergoing Hyperraising to object (which is covert, see Deal, 2017a).

(48) Nez Perce

(Deal, 2017a: 6)

- a. 'Aayat-onm hi-nees-nek-se [watiisx mamay'as-na
 woman-ERG 3.SBJ-O.PL-think-IPFV [1.day.away children-ACC
 Angel-nim hi-naas-wapayata-ya].
 Angel-ERG 3.SBJ-O.PL-help-PERF]
 'The woman thinks Angel helped the children yesterday.'
- b. *Taamsas-nim hi-nees-nek-se [Angel-nim hi-naas-wapayata-ya
 Taamsas-ERG 3.SBJ-O.PL-think-IPFV [Angel-ERG 3.SBJ-O.PL-help-PERF
 mamay'as-na].
 children-ACC]

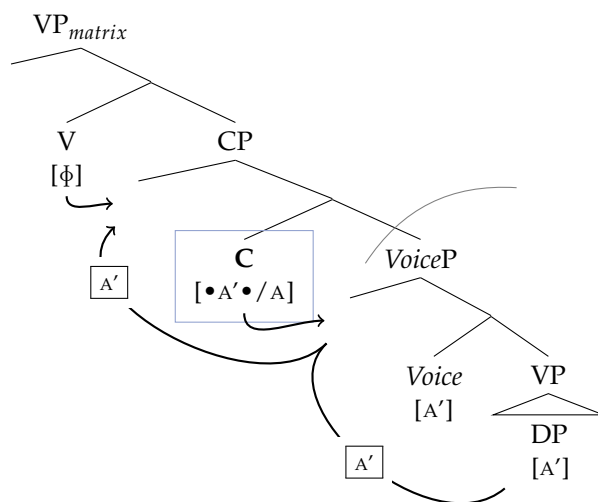
‘Taamsas thinks Angel helped the children.’

This supports the idea that A-minimality in composite probing is not conditioned by intervention effects but rather by the location of the probe, combined with the movement chain it triggers. The claim is further strengthened if we look at long-distance agreement (e.g. in Passamaquoddy). I suggest that LDA constructions are very similar to Hyperraising with the distinction that $[A'/A]$ on C does not induce A- but A'-movement to SpecCP (i.e. is merged as $[\bullet A' \bullet / \phi]$). Our theory so far predicts that in these cases, $[\bullet A' \bullet / A]$ on C should be able to attract an object. This prediction is borne out; in Passamaquoddy (49) the embedded theme *snowshoes* can feed LDA, across an overt subject (*Bear*).

- (49) *Susehp* 'kosiciy-a-' [*akom-* *eli Muwin kisi=*
Joseph 3-know.TI-3OBJ-OBV.PL [*snowshoe-OBV.PL* C *Bear* PFV=
mil-a-t *Wiphun*].
give.TA+O-3OBJ-3CJ Feather
'Joseph knows that Bear gave Feather snowshoes.'
Passamaquoddy (Bruening, 2001b: 177)

This is expected: if the movement chain triggered by $[A'/A]$ on C is A', it can be fed by an initial A'-movement step to SpecVoiceP. An object A'-extracted to SpecVoiceP thus can serve as a goal for $[A'/A]$ on C and from there become the target of long-distance agreement. This follows because both movement chains (first to VoiceP and then to CP) are of type A', thereby the BIM is not violated, shown in structure (50). Note that another prediction here is that the DP in SpecCP cannot undergo further A-movement to the matrix clause; this prediction is borne out too: LDA cannot feed matrix A-movement (shown in Bruening, 2001b and in chapter 6). Chapter 6 deals with these configurations in more detail and presents further empirical evidence for A-movement in Hyperraising and A'-movement in LDA.

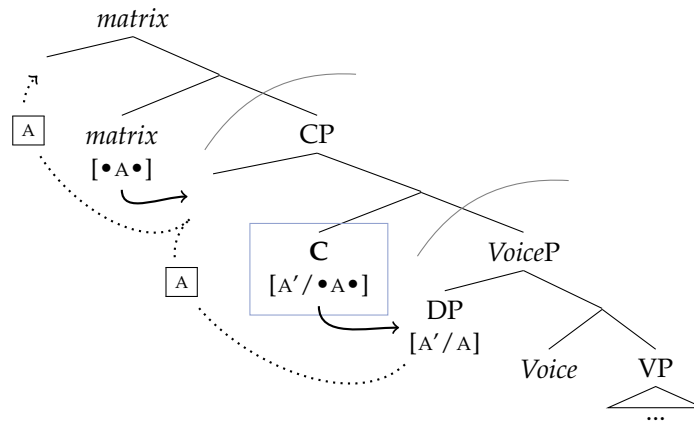
- (50) *Initial A'-movement step can feed LDA*



I conclude that the apparent minimality restrictions in Hyperraising configurations are not conditioned by the composite probe on C being sensitive to an intervening subject, but by the lack of $[A'/A]$ on Voice, phasality of VoiceP and the independent presence of BIM.

The second property we observe in Hyperraising configurations is that the movement chain triggered by $[A' / \bullet A \bullet]$ on embedded C can leave a finite embedded clause, or, put differently, can feed matrix A-movement. This depicts a puzzle for the classical A' / A distinction: A-movement across a finite CP boundary should usually be ruled out. In my account, the allowance for cross-clausal A-movement follows when C is merged with $[A' / \bullet A \bullet]$: it A-moves its goal to SpecCP from where it becomes visible to a matrix probe and can undergo further A-movement to the matrix clause. The BIM does not rule this out, as no A' -chain was involved in the derivation.

(51) *A-movement to CP feeding matrix A-movement*



Why $[A' / A]$ is only present on embedded C in Hyperraising and LDA (and on no other head) is discussed in chapter 6 and section 4.11. Crucially, the presence of $[A' / \bullet A \bullet]$ on C but not on Voice derives the subject restrictions in Hyperraising as well as the possibility for long-distance A-movement, crossing a CP boundary.

$[A' / A]$ on Voice

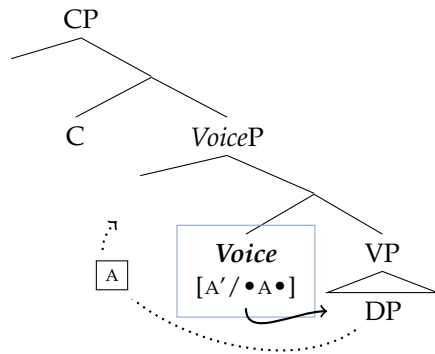
The next class of languages are such exhibiting $[A' / A]$ only below CP; on Voice.²⁰ This distribution is reported for Mandarin Chinese BEI-passives and low topics/foci (Chen, 2023) as well as for Khanty passives (Colley and Privoznov, 2020).²¹ Such configurations do not show A-minimality effects (either argument below Voice can be attracted) but cannot cross a finite CP clause boundary: CP is not equipped with $[A' / \bullet A \bullet]$ (or $[\bullet A \bullet]$) and thereby does not enable long-distance A-movement. When CP is absent, that is when the matrix clause embeds a reduced clause (e.g. TP), movement of the goal can proceed across multiple embedded clauses. The reasons why Chen, 2023 and Colley and Privoznov, 2020 propose an $[A' / A]$ probe on Voice (instead of a pure $[A]$ probe) are the information-structural effects involved in these constructions and the fact that intervening DPs may be skipped when extracting a lower argument.

- (52) a. × (apparent) A-minimality
b. × can cross CP boundary

²⁰Note that I am summarizing several accounts in this section; in particular Colley and Privoznov, 2020 and Chen, 2023. They argue that additional to Voice, A' / A is located on a PassP head, T or a low Foc/Top head. I will investigate these analyses in more detail in chapter 8. For now, it is relevant that A' / A in these configurations is on a head below C.

²¹Longenbaugh, 2017 suggests that English *tough* movement involves an $[A' / A]$ probe on Voice; I shortly discuss his approach in chapter 8.

- (53) [A'/A] only on Voice/below CP



In (54) we see that Mandarin low topicalization can cross a TP, but not a CP boundary. The [A'/A] probe in Mandarin triggers an A-chain; it is thus expected that such movement cannot cross CP if C does not carry a composite probe to mediate it.

- (54)
- Mandarin low topics cannot cross CP*
- (Chen, 2024: 2)

- a. **Li, zhe-ben shu xiangxin* [_{CP} *Zhang kan-wan-le t*]
 Li **this-CL book** believe [_{CP} Zhang read-be.finished-PRF *t*]
 Int.: 'Li, this book, believes that Zhang has finished reading (it).'
- b. *Li, zhe-ben shu bi* [_{TP} *Zhang kan-guo t*]
 Li **this-CL book** force [_{TP} Zhang read-EXP *t*]
 'Li, this book, once forced Zhang to read (it).'

On the other hand, donfigurations with a composite [A'/A] probe on Voice exhibit the A'/A-relativized minimality profile we expect of [A'/A] probes: the composite probe on Voice is not sensitive to intervening, partially fitting goals but can attract full match across a partial fit. This can be seen in Mandarin Chinese BEI-constructions, where [A'/A] on Voice finds a deeper embedded goal across a partly fitting DP, visible both from ditransitives (55) as well as successive-cyclic long-distance extraction in (56).

- (55)
- Mandarin Chinese ditransitive passive*
- (Chen, 2023: 68)

- a. *Zhangsan bei gaozhi-le t zhe-jian shi*
Zhangsan BEI inform-PRF *t* **this-CL matter**
 'Zhangsan was informed about this matter (but not that matter).'
- b. *Zhe-jian shi bei gaozhi-le Zhangsan t*
this-CL matter BEI inform-PRF *Zhangsan t*
 Lit. 'This matter was informed Zhangsan about.'

- (56) *Zhangsan bei Lisi bipo jingchaj* [_{zhuazou-le t}]
Zhangsan BEI Lisi force police [_{arrest-PRF t}]
 Lit. 'Zhangsan was forced (by Lisi) the police to arrest x.'

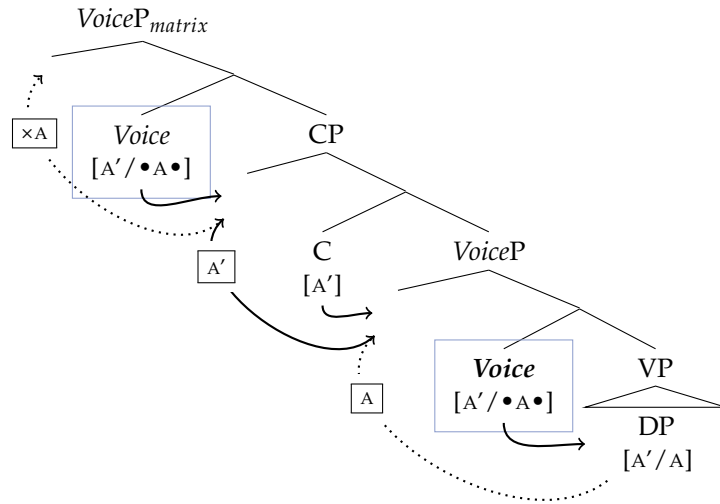
Mandarin Chinese long-distance passive (Chen, 2023: 40)

Note that in the examples above, movement proceeds successive cyclically through embedded VoicePs. Chen, 2023 suggests that in these cases, all embedded Voice heads carry [A'/A] and thereby enable a deeply embedded DP to (A-)move successive-cyclically through them.

Crucially, Mandarin Chinese configurations do not carry an [A'/A] probe on C. C is equipped with a pure [A'] probe whereby it does not enable successive-cyclic

A-movement. The only option for a goal to move to from SpecVoiceP to SpecCP is via A'-movement. This is in principle possible—but BIM prohibits a higher VoiceP to subsequently A-move this goal again. Thereby, a BEI passive feeding A'-movement to SpecCP is grammatical but a BEI passive feeding A'-movement to SpecCP which again feeds a higher BEI passive is ruled out. The respective structure is depicted below.

(57) No A-movement across CP possible if C is not equipped with [A'/A]



Another possible instance of an [A'/A] probe solely on VoiceP (and not on CP) is suggested in Longenbaugh, 2017 for English *tough* constructions. In these constructions, we also observe successive-cyclic, A'/A-minimal A-movement through VoiceP. I do not pursue an A'/A analysis of *tough*-movement in this thesis, but briefly discuss Longenbaugh's approach in chapter 8.

[A'/A] on Voice and C

Some languages exhibit [A' / • A •] on Voice and on C (e.g. Dinka, van Urk, 2015; Malagasy, Balinese; see chapter 7). The languages under discussion come with a distinguished voice system, allowing for an internal argument to A-move above the external argument. I suggest that in these languages, A-movement triggered by [A'/A] happens successive cyclically through VoiceP and CP, thereby is not restricted by a finite CP boundary (as Mandarin BEI passives are) and does not exhibit apparent A-minimality properties (as Hyperraising does).

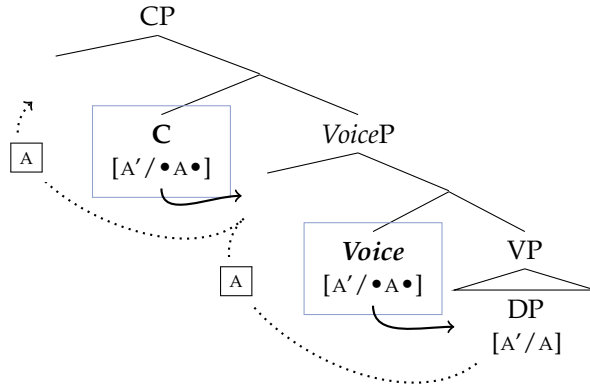
- (58) a. × (apparent) A-minimality
b. ✓ can cross CP boundary

The relevant configurations are such where an intermediate composite [A'/A] probe on Voice attracts a fitting A'/A goal and moves it to its specifier. Only after this, [A'/A] on C starts probing, has both the object as well as the subject within its reach, agrees with the best fit, and triggers further thereof. In chapter 7, I will argue that Austronesian voice morphology reflects the presence or absence of an [A'/A] probe on Voice (OV/TV Voice carries an [A'/A] probe whereas AV/CV lacks it).²²

²²This is different from Dinka, for which (following van Urk, 2015) I assume that voice morphologic equals extraction marking on the C head.

For now, irrespective of where voice marking stems from, it suffices to assume that an [A'/•A•] probe on Voice can trigger A-movement of an internal argument to SpecVoiceP, from where it is visible to [A'/•A•] on C. This (can) render a derivation where A-movement crosses a DP on its way to SpecCP.

(59) [A'/A] on Voice and C, mediating successive-cyclic A-movement



The structure in (59) depicts an object/patient voice configuration and the agent is, for the sake of clarity, not illustrated in the structure. It would be (externally) merged in SpecVoiceP, and the internal object DP would be raised over it to a second SpecVoiceP (and then further to SpecCP). In chapters 7 (Balinese and Malagasy) and 8 (Dinka), I discuss what happens in agent voice and oblique voice configurations, as well as the exact syntax of [A'/A] in voice systems. A composite probe both on C and Voice predicts two things: any DP can be extracted to SpecCP (subjects, direct objects and indirect objects) and [A'/A]-induced A-movement can leave CP. Both predictions are borne out.

We can observe A'/A minimality in Balinese ditransitives, where [A'/A] on Voice can attract either the closer recipient (in ApplP) or the lower theme (in VP), depending on which one carries the better set of features. Either one of them can be fronted to SpecVoiceP and from there, found by [A'/A] on C. In (60), the direct object (*money*) is promoted to pivot (that is, attracted by [A'/A] on Voice and then by [A'/A] on C), crossing the indirect object (*Nyoman*) and the agent (*I*) on its way.

- (60) *Pipis baang tiang Nyoman t*
money OV.give 1SG *Nyoman t*
 'The money, I gave to Nyoman.'
 Balinese (Arka, 2003: 25)

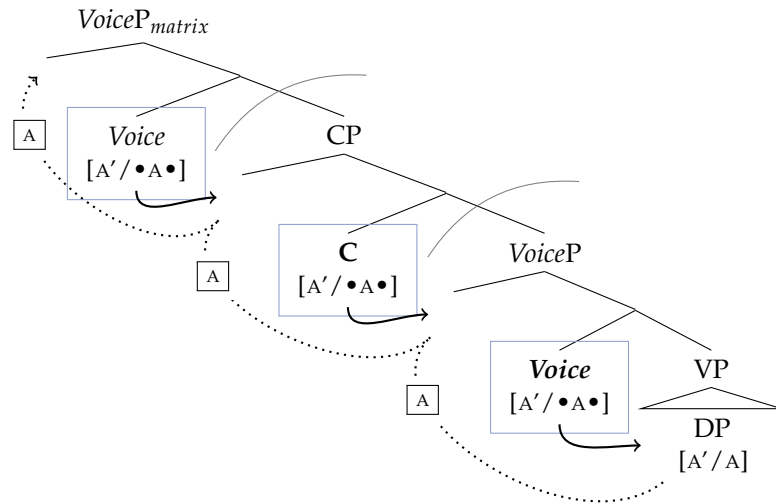
Similarly, in Dinka long-distance extraction, an embedded goal can move successive-cyclically through multiple VoicePs and CPs, both crossing a CP boundary as well as other DPs (in (61), the matrix theme, *Ayen* as well as the matrix agent *Bol*).²³

- (61) *Yè ɲɔ cɛi Bôl Àyén lɛɛk [ɛ bɛ t ɲɔɔc]*
 be **what** PRF.OV Bol.GEN *Ayen* persuade.NF [C FUT.3SG *t* buy.NF]
 'What has Bol persuaded Ayen that she should buy?'
 Dinka (van Urk, 2015: 97)

²³van Urk and Richards, 2015 propose that in Dinka long-distance extraction, matrix Voice agrees with the embedded CP, triggers movement of the whole CP to SpecVoiceP and only from there, the DP in SpecCP is moved further. This does not weaken my argument of relativized A'/A minimality: in both cases, the [A'/A] on matrix Voice skips the matrix theme and attracts movement of a lower goal, be it the whole CP or the DP in SpecCP.

Since C carries $[A' / \bullet A \bullet]$ probe all movement triggered by this probes is able to leave a CP clause, mediated successive-cyclically by the composite phasal heads. In the Dinka example in (61), we saw that this is possible for $[A' / A]$ induced wh-movement, in (62) we see it for Dinka long-distance promotion to pivot; section 5.7 as well as chapter 8 provide empirical evidence that these movement chains obtain A-properties.

- (62) *Kôc-kè áa-cíi Ból ké yôô [kè nhiàr t Áyén].*
people-these 3PL-PRF.OV Bol.GEN 3PL find.out.NF [C love.AV *t* Ayen]
 ‘These people, Bol has found out love Ayen.’ *Dinka* (van Urk, 2015: 73)
- (63) $[A' / A]$ on Voice and C, mediating long-distance A-movement



To summarize, for languages with $[A' / A]$ on both C and Voice, we saw that Voice is able to attract an internal argument to A-move to its specifier, thereby make all arguments potential goals for $[A' / A]$ on C (opposed to configurations where only C carries $[A' / A]$). Relativized A' / A minimality is best visible when looking at the $[A' / A]$ probe on Voice, being able to skip partially fitting goals in ditransitives or long-distance extraction.

$[A' / A]$ on other heads

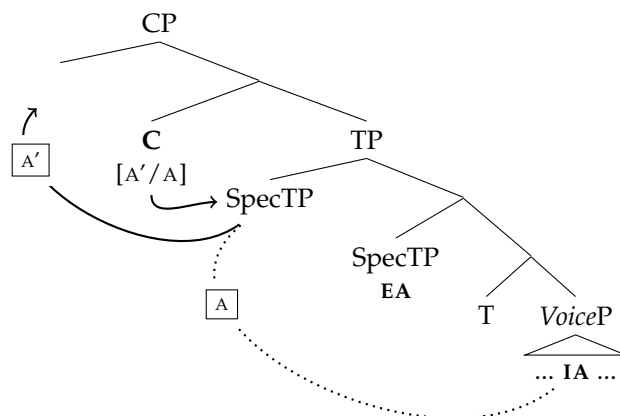
Chen, 2023 (in parts following Kuo, 2009), argues that in Mandarin Chinese, a low TP head can carry A' / A (additional to Voice) and attract low topicalization or focalization. These configurations pattern with the ones where only VoiceP carries $[A' / A]$: they cannot occur across CP boundaries and are insensitive to intervening DPs. Since these cases behave exactly like the BEI passives in Mandarin Chinese, I do not examine their details here but will talk about them in section 5.7 as well as chapter 8. Similarly, Colley and Privoznov, 2020 suggest that Khanty passives carry an $[A' / A]$ probe on T. I assume that Khanty can just as well be captured under an analysis in which the $[A' / A]$ probe sits on Voice, fronts an object, and feeds a further A-movement step to TP, see chapter 8.

4.9.3 A note on VoiceP phases and defective intervention

In the last section, I tied the A'/A minimality profile of composite probes to a combination of conjunctive probing (the search for a fully fitting goal), Voice and CP phasality, as well as both C and Voice being possible hosts for [A'/A] probes. In this section, I would like to address an alternative analysis to A'/A minimality in terms of DP intervention (Branan and Erlewine, 2022; Coon, Baier, and Levin, 2021; Keine and Zeijlstra, 2023) and why I do not adopt an defective intervention-based framework for [A'/A] probing.

Branan and Erlewine, 2020; Coon, Baier, and Levin, 2021; Keine and Zeijlstra, 2023 all present versions of [A'/A] probing that is sensitive to defective intervention; this means, [A'/A] in their understanding cannot search beyond a partly fitting goal (e.g. a bare DP) whereby the only successful derivation is such where the closest DP carries both a fitting [A'] and [A] feature. Note that all three accounts do not address a mixture of A'/A properties induced by such probes; rather, their [A'/A] probes appear to induce regular A'-movement which has the additional restriction of being A-minimal. The (potential) A-properties of the derivations come from an initial step of argument reordering before the [A'/A] probe starts searching. Two further distinctions between these approaches and the one discussed here is that i) all of them only discuss [A'/A] on C (not on Voice), and ii) Coon, Baier, and Levin, 2021 and Keine and Zeijlstra, 2023 do not take VoiceP to be a phase.

Two-step derivation of promotion to pivot Keine and Zeijlstra, 2023 bring forward a different analysis for Dinka and Indonesian promotion to pivot (both of which are, to some degree, discussed in this thesis). They discuss how a two-step movement analysis combined with an [A'/A] probe on C accounts for the same patterns I (following van Urk, 2015) analyse as A'/A-minimal [A'/A] on C and Voice. In Keine and Zeijlstra's account, promotion to pivot is a process which allows the internal argument to be leapfrogged across the external argument to TP. Leapfrogging (Bobaljik, 1995; McGinnis, 1998) is a process of argument-reordering, via which the object can end up above the subject; usually it is driven by the object's need of case-licensing. Keine and Zeijlstra suggest that in Indonesian and Dinka object Voice constructions, the object A-moves across the external argument to an additional specifier of TP (both elements are located in SpecTPs then). From there, it is the closest goal to an A-minimal [A'/A] probe on C, which triggers A'-movement to SpecCP. The structure in (64) depicts a simplified version of this approach:

(64) *Leapfrogging of the internal argument across the external argument*

What is similar between my account (which follows van Urk, 2015) and the one in Keine and Zeijlstra, 2023 is that there is an initial argument reordering process before C starts probing. In my approach, this happens inside VoiceP, in theirs, it happens in TP. To some degree, the outcome is the same; there must be a way for the internal argument to cross the external argument via A-movement.²⁴ The two accounts differ in the following; first, the [A' / A] probe they suggest is A-minimal whilst the one I suggest is not. Second, I assume that an [A' / A] probe may attract an A-movement chain, whereas Keine and Zeijlstra's [A' / A] probe induces an A'-chain, whose sole A-quality is that it is A-minimal; the A-properties of the derivation stem from the initial leapfrogging process. Last, they assume that VoiceP is not a phase whilst I adapt the classical Chomskian view that both CP and VoiceP are phases and movement needs to proceed through their edges. Whilst Keine and Zeijlstra's account can capture Dinka monotransitives similarly well as the account presented in van Urk, 2015 and here, I think runs into difficulties when extended to certain ditransitives. Dinka shows some ditransitives which allow extraction of the lower direct object across the higher, indirect object. The Dinka verb *warn* selects two DPs; under OV, either one of them can be extracted. Example (65) shows extraction of the lower theme (*sun*) across the higher applicative (*Deng*).²⁵

- (65) *Àkól à-cùukù* [VoiceP *t jâany* *Dèŋ t*]
sun 3S-PRF.OV.1PL [VoiceP *t warn.NF Deng t*]
 'The sun, we have warned Deng about.'

Dinka A'/A minimality in ditransitives (van Urk, 2015: 163)

Under Keine and Zeijlstra's analysis, *sun* would have to leapfrog across two DPs to become the highest element in TP and be accessible for [A' / A] on C. Under an analysis involving A' / A minimal [A' / A] on both C and Voice, example (65) is expected.

²⁴Note that in chapter 7 and 8 I point out that promotion to pivot in Balinese and Malagasy alternates subjecthood whilst it does not in Dinka. I am not sure how this distinction could be derived under a uniform leapfrogging account via TP.

²⁵Note that van Urk, 2015 explicitly shows out that this example does not allow two different base-orders of the two objects, thus the direct object must cross the indirect one being extraction; for an in-depth discussion see chapter 8.

Non A-minimal [A'/A] in Mandarin Chinese Further, if we aim to unify the probing mechanism of [A'/A] probes, we would optimally like to find the same minimality profile in different instances on [A'/A] probing; another counterargument to an intervention-based framework of [A'/A] probes comes from long-distance extraction patterns in Mandarin Chinese A'/A configurations. Kuo, 2009 and Chen, 2023 (*a.o.*) show that Mandarin Chinese low topics/foci and BEI-passives show all hallmarks of A-movement but can proceed out of multiple TPs; when doing so, they can cross intervening DPs. In (66), the moved *book* corresponds to a deeply embedded gap, and thereby must have crossed the theme DPs *Zhang* and *Wang* on its way to the matrix clause.

- (66) *Li (lian) zhe-ben shu (dou) [bi Zhang [jiao Wang [kan-guo t]]]*
Li (even) this-CL book (DUO) [force Zhang [order Wang [read-EXP t]]]
 'Li, (even) this book_i, once forced Zhang to order Wang to read (it_i).'
Mandarin Chinese (Chen, 2023: 103)

In order for this to be possible with an [A'/A] probe sensitive to intervening goals, we would have to assume high base-generation of the passive/ topic/ focus DP. Even though such accounts exist (Ting, 1995; Huang, 1999; Tang, 2001; Huang, Li, and Li, 2009; Feng, 2012; Bruening and Tran, 2015), Chen, 2023 convincingly argues for a movement analysis, based on arguments from reconstruction effects and island-sensitivity.²⁶ Another option for Mandarin Chinese non-minimal A-movement could be that the whole embedded clause is moved to SpecVoiceP before the DP moves out of this clause and higher up, a par to van Urk and Richards, 2015 for Dinka long-distance movement. In Dinka, there is independent evidence that this might be the case, however, in Mandarin Chinese, there is not, thus an complement clause movement would have to be stipulated. A last option would be to treat [A'/A] on Voice differently from [A'/A] on C; the lower probe would be insensitive to defective intervention whereas the higher would be sensitive to intervening DPs. Combining this with Keine and Zeijlstra's analysis, this would make an unusual prediction: [A'/A] on C would trigger A'-movement but would be restricted to the closest DP whilst [A'/A] on Voice would trigger A-movement but not be sensitive to defective intervention. It is somewhat strange to suggest that the sole reason for [A'/A] probes then seems to be to invert the minimality restrictions of a movement chain.

Long-distance A-movement Even though this is not directly relevant to defective intervention, a second problem for the account proposed in Keine and Zeijlstra, 2023 are instances of long-distance A-movement—particularly in Dinka. They assume that in Dinka, a theme is first A-moved to SpecTP and then attracted by [A'/A] on C and A'-moved to SpecCP. Under this assumption, it is difficult to account for the fact that Dinka long-distance movement has A-properties; if an element first A'-moves to embedded SpecCP, it should not be able to feed a subsequent matrix A-movement step. As H. Zeijlstra pointed out to me, one would have to assume that in long-distance extraction, the A'-movement step to embedded CP can be skipped and the extracted DP moves directly from embedded TP to matrix TP. This goes along the lines of his proposal in Halpert and Zeijlstra, 2024 where they suggest that long-distance A-movement (particularly, Hyperraising) proceeds from TP to TP, and may ignore a CP in its way. Long-distance movement skipping CP can be embedded in a phase-unlocking/deactivation account, in which the phasality of CP is canceled under agreement and thereby A-movement can proceed out of CP without having

²⁶For more arguments see chapter 8.

to stop at the CP left edge (see for example Rackowski and Richards, 2005; Halpert, 2019 or Lee and Yip, 2024). Hence, one could find a way in which long-distance A-movement is technically implementable, even if CP is a pure A'-domain. van Urk, 2015 and van Urk and Richards, 2015, however, specifically argue for the fact that in Dinka long-distance extraction, the extracted DP stops in SpecCP. This is not compatible with the analysis in Keine and Zeijlstra, 2023 where SpecCP would be a pure A'-position; A-movement from there would violate the BIM.

Whilst the approach in Keine and Zeijlstra, 2023 is an interesting way of implementing mixed A'/A properties in a positional account, I have the impression that it can only account for a subset of A'/A configurations but needs to make additional assumptions regarding instances of [A'/A] on Voice and long-distance A-movement. I propose that the analysis in this thesis applies to broader set of derivations, or, at least, involves the same amount and not more stipulations than the account in Keine and Zeijlstra, 2023. Further, my analysis embeds [A'/A] probing into a broader picture of the A'/A distinction in composite probing, whilst Keine and Zeijlstra, 2023 do not specifically investigate in what way "mixed" derivations obtain their specific A'- and A-properties.

A'-probing for the closest DP in general Moving on from Keine and Zeijlstra, 2023, I would like to take short look at intervention-sensitive A'-probing in general as has been recently investigated, among others, in Aldridge, 2008; Deal, 2017b; Coon and Keine, 2020, Coon, Baier, and Levin, 2021, Keine and Zeijlstra, 2023, Branan and Erlewine, 2020, Branan, 2021; Drummond, 2023. Most of these accounts aim to explain extraction restrictions in ergative languages, where A'-extraction is restricted to the absolutive argument (but see Branan and Erlewine, 2020; 2022 for other applications). This is usually referred to as *Syntactic Ergativity* or the *Ergative Extraction Constraint (EEC)*.²⁷ A much investigated case of syntactic ergativity is found in Mayan languages, see (67) from Q'anjob'al, where only an absolutive, but not an ergative DP can be wh-extracted.

- (67) Q'anjob'al (Mayan) (Coon, Pedro, and Preminger, 2014: 192-193)
- a. *Maktxel max y-il naq winaq?*
who(ABS) PRF A3-see CLF man
 'Who did the man see?'
 - b. **Maktxel max y-il ix ix?*
who(ERG) PRF A3-see CLF woman
 Int.: Who saw the woman?'

Syntactic ergativity is often analyzed as an [A'] probe on C, relativized for a [D] or a case feature (like [ABS]); this is paired with an initial re-ordering process of arguments, rendering the ABS argument the highest DP in the clause and thereby the closest goal to C, similar to what we saw above (see for example Aldridge, 2004; 2008; Erlewine, 2018; Coon, Baier, and Levin, 2021, a.o.). Just like Keine and Zeijlstra, 2023, these accounts assume that the [A'/A] probe that triggers A'-extraction is restricted to the closest DP. There are various implementations of defective intervention, among them different *Interaction and Satisfaction* conditions (Deal, 2015, Scott, 2021b, Bárány, 2023), *Contingent Probing* (i.e. fine-grained ordering of agreement operations; Branan and Erlewine, 2020; Branan, 2021), or *Feature Gluttony* where the

²⁷Note that I do not take the pivot-only extraction restrictions in Balinese and Malagasy to be the same as syntactic ergativity. Chapter 7 discusses the alignment patterns of Austronesian languages and the relation between syntactic ergativity and the pivot-only extraction restriction.

presence of a lower, better fitting goal leads to a crash (Coon and Keine, 2020; Coon, Baier, and Levin, 2021). All of these approaches assume that the only job of the [D] probe involved in A'-extraction is to make C A-minimal. The movement chain such a probe triggers usually seems to be regular A'-movement. I do not include syntactic ergativity into my approach here; on one hand, most of these constructions have not been analysed in terms of mixed A' / A dependencies (although see Katochoritis, 2023), on the other hand, the topic of syntactic ergativity provides material for another three theses, and this one is already extensive enough. I leave open for future investigation in what way an [A' / A] analysis as proposed here could be extended to ergative extraction patterns. For now, I treat these cases as "pure A'-configurations with some additional A-minimality restrictions".

4.10 Independent and multiple probing

One question we have not addressed yet is how composite probes deal with situations where either i) no fully fitting goal can be found or ii) multiple full matches are available. For the first case, that is, if no fully fitting goal is available, I argue that composite probes have the option to split up and agree with two separate goals, referred to as *independent probing* (following Scott, 2021b).²⁸ In the other case, that is when multiple fitting goals are available, composite probes have to target the closest of the two goals (as per A' / A minimality) but, in some languages, may probe multiply and thereby attract multiple fitting goals to their specifiers (following Erlewine, 2018).

4.10.1 Independent probing

I take independent probing to be a last-resort option in order to avoid a crash of the derivation. The ability for independent probing is regulated on a language-specific basis, regulated by different degrees of leniency: some do not permit independent probing at all, some allow it with two different goals and some allow one subpart of the composite probe to fail altogether. A composite [A' / A] probe (in all languages) initially seeks to probe for a full match. If this is not possible, the two parts for the composite probe can (in some languages) split up and probe for two independent goals, establishing two independent agreement (and movement) operations (see also van Urk, 2015; van Urk and Richards, 2015; Scott, 2021b). If this is not possible either, languages may allow for one part of the composite probe to fail altogether (in line with Preminger, 2009; 2011) whereas the other one finds a goal. This renders a hierarchy of last resort probe splitting, summarized in (68).

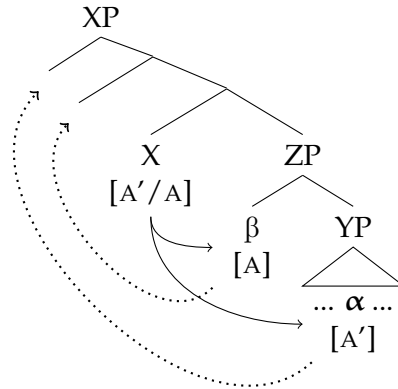
- (68) *Probe together » split » fail*
- a. *Probe together*: [A' / A] tries to probe for a full match
 - b. *Split*: If no such goal is found, [A' / A] splits up and agrees with two different goals
 - c. *Fail*: If only one (partially fitting) goal can be found, one probe ([A'] or [A]) can fail

For option b), that is independent probing and agreement with two different goals, I suggest that one and the same head attracts two different goals to multiple specifiers

²⁸The analysis of independent [A' / A] probing developed in joint work with Ka Fai Yip and parts of it have been published in Lohninger and Yip, 2023.

(Richards, 1997; van Urk and Richards, 2015; Scott, 2021b); the structure is depicted in (69).

(69) *Movement to multiple specifiers*



I suggest that all three options (*probe together* » *split* » *fail*) can be observed in composite A' / A configurations; I assume that languages have different tolerance for last-resort options, thus may not allow independent probing at all. **Probe together** cases were the subject of this whole section, thus I do not repeat examples here. **Split** can be observed in some Hyperraising configurations (Lohninger and Yip, 2023), as well as Dinka (and most likely Austronesian) adjunct extraction (cf. van Urk, 2013; Erlewine, Levin, and van Urk, 2017; Erlewine, 2018). Last, **failure of one probe** can be found in a subset of Hyperraising configurations as well as Dinka, allowing for one probe to remain unvalued (following Preminger, 2009; 2011). Language-specific examples for the three options are discussed in chapter 6 (Hyperraising), chapter 7 (Austronesian), and chapter 8 (Dinka). For the moment being, I demonstrate *probe together*, *split* and *fail* in one language/configuration that allows all three of them; Cantonese Hyperraising to subject. As stated in section 4.9, Hyperraising is mediated by an $[A' / A]$ probe on embedded C.²⁹ $[A' / A]$ on C optimally probes together for a fully fitting goal; (70) shows such a case. Embedded C attracts the focalized DP *even big companies* (which depicts a fully fitting $[\text{foc} / \phi]$ goal), and moves it to SpecCP from where it can undergo Hyperraising to subject.³⁰

- (70) *Lin taaigungsi tengman [gamnin t dou m-paai faahung]*
even big.company hear [this.year *t* also not-distribute bonus]
 'It is heard that even big companies did not distribute bonuses this year.'
 Cantonese (Lohninger and Yip, 2023: 8)

If no fully fitting goal can be found, that is if there is no goal in the available search space that carries both an $[A']$ and an $[A]$ feature, $[A' / A]$ on C splits up and probes with two independent goals. The $[A]$ probe will mediate Hyperraising whereas the $[A']$ probe can trigger additional topicalization, focalization or relativization. Both the hyperraised DP and the A' -extracted element pass through (multiple) embedded SpecCPs and move further into the matrix clause. Independent probing is depicted

²⁹For the full analysis as well as alternative accounts, see chapter 6.

³⁰Note that the embedded clause hosts the stranded focus marker *dou*; this indicates that focalization was already established in the embedded clause and we are not looking at an instance of Hyperraising with subsequent matrix focalization.

in (71): in all three examples the **boldfaced DP** undergoes Hyperraising to subject whilst the underlined XP is A'-extracted.

- (71) *Cantonese* (Lohninger and Yip, 2023: 6)
- a. *Lin faahung gaan gungsi taipaa* [*t* dou m-wui paai t].
even bonus CL **company** seem.fear [*t* also not-will distribute t]
 'It seems that the company will not even distribute the bonus.'
Focalisation + Hyperraising
- b. *Gam-do-ceot hei, Aaming gamgok* [(waa) *t* dou m-zungji tai t].
that.many.CL film **Ming** feel.like [C *t* all not-like watch t]
 'All these many films, it is felt that Ming doesn't like to watch.'
Topicalisation + Hyperraising
- c. [*Go fung gamgok* [waa *t* wui ceoilam t]] ge syu.
 [CL **wind** feel.like [C *t* will blow.down t]] MOD tree
 'The tree which it is felt like the wind will blow down.'
Relativisation + Hyperraising

Last, if there is neither a fully fitting goal nor two partial fits available, the A'-part of the composite probe can fail and Hyperraising can be mediated by the [A] feature on C alone. This is evident in (72) where the hyperraised DP does not involve information-structural effects; it can be a weak quantifier like *many people*. Such a quantifier is not topicalizable or focalizable, thereby shows that Hyperraising in these cases was induced by a pure [A] probe. Further, there is also no additional A'-movement, showing that the [A'] probe does not mediate anything in the construction.

- (72) *Houdo jan* (*ne,) gamgok [waa *t* wui lai]
many person (*TOP) feel.like [C *t* will come]
 'It is felt that many people will come.' *Cantonese* (Lee and Yip, 2024: 18)

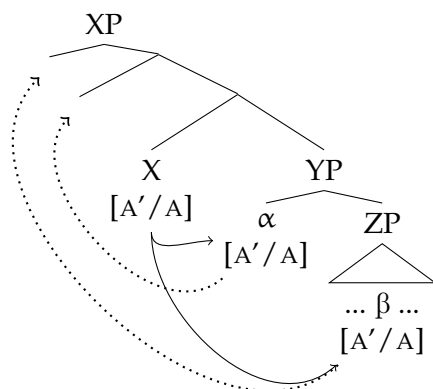
Hyperraising in Cantonese thus depicts all three options of probe-splitting; *probe together* » *split* » *fail*. Probe splitting might be a form of implicational hierarchy on which languages can exhibit different cut-off points: note, however, that the languages investigated in this thesis either do not allow independent probing at all or permit all three options of the hierarchy in (68). Hyperraising in Romanian and Turkish, for example, does not allow to split [A'/A] at all. Mandarin low topicalization/focalization as well as BEI passives behave similarly. Hyperraising in Brazilian Portuguese, and Mongolian, just like Cantonese above, allow all three options; Dinka [A'/A] on Voice seems to do so to. Bossi and Diercks, 2019; Scott, 2021b report cases where languages might show a cut-off between split and fail, that is need to attract two independent goals if there is no full fit; a similar case might be found in Dinka [A'/A] on C. I can only speculate why there are different cut-off points in different languages; possibly, each step on the splitting hierarchy is more costly than the one before: probe together is the most economic, split is less economic and fail is the least economic option.

4.10.2 Multiple probing

The opposed case to no fitting goal are situations where there are multiple A'/A goals in the search space of a composite probe. In such situations, relativized A'/A minimality predicts that the higher A'/A goal will be attracted. In section 4.8, we

saw that this prediction is borne out. Following Erlewine, 2018, I suggest that some languages allow multiple probing of an A'/A head. If a language does so, and multiple fitting A'/A goals are available, this can result in movement of all goals to specifiers of the probing head, shown in structure (73).

(73) *Multiple probing, moving goals to multiple specifiers*



Potentially, we find multiple probing in Balinese side-car extraction (ErlewineLevinvanUrk2019). Balinese, like all other Austronesian voice-marking languages, restricts A'-extraction (e.g. wh-extraction) to pivots (as long as the extracted element is an argument).³¹ This is shown in (74), where an OV marked verb only allows wh-extraction of the object, not the subject. If one was to extract the subject, the verb would have to be marked AV.

(74) *Balinese* (Erlewine, Levin, and van Urk, 2017: 389)

- a. *Apa beli Nyoman t?*
 what OV.buy Nyoman *t*
 'What did Nyoman buy?'
 b. **Nyen montor anyar beli t?*
 who car new OV.buy *t*
 Int.: 'Who bought a new car?'

Following Erlewine, Levin, and van Urk, 2017; ErlewineLevinvanUrk2019 I assume that both wh-extraction as well as regular promotion to pivot have the same trigger: [A'/A] on C. Thereby, promotion to pivot competes with wh-extraction for a position in CP, rendering the pivot-only extraction restriction. Interestingly, wh-extraction under OV in Balinese allows for the non wh-agent (*Nyoman*) to be extracted, as long as the wh-object is extracted too, shown in (75).³²

- (75) *Apa ci aih t t ditu ibi?*
 what you OV.seek *t t* there yesterday?
 'What did you look for there yesterday?'

Balinese (Erlewine, Levin, and van Urk, 2017: 390)

³¹Note that adjunct extraction is possible independent of voice marking and might be viewed as an instance of independent probing; discussed in van Urk and Richards, 2015.

³²Erlewine, 2018 describes a similar behavior in the related Austronesian language Toba Batak.

Note that usually, the non-pivot agent occurs strictly right-adjacent to the verb, shown in (76). In the side-car extraction construction in (75), it precedes the verb, indicating that it has been extracted alongside the object.

- (76) *siap-e uber cicing ke jalan-e*
 chicken-DEF OV.chase dog into street-DEF
 ‘A dog chased the chicken into the street.’ *Balinese* (Levin, 2014a: 2)

Following Erlewine, Levin, and van Urk, 2017; Erlewine, 2018, I assume that examples like (75) are the result of multiple probing of $[A'/A]$ on C: $[A'/A]$ first attracts the wh-object to its specifier and further the external argument to an additional SpecCP (of course only given that it (the external argument) agent carries both $[A']$ and $[A]$ features too). Thereby, the $[A'/A]$ probe on C probes multiply and attracts two fully fitting goals to its specifiers.³³

This section investigated what happens if a composite probe encounters no fitting goal or too many of them. I suggested that, on an individual language-bases, composite probes may split up and probe independently of attract multiple fitting goals. Particularly the option for independent probing is discussed again in 6.

4.11 How do composite probes enter the derivation?

The last topic I address in this chapter is the question of how A'/A probes enter a derivation, that is where do they come from and why are they only found in a (very small) set of languages and/or syntactic configurations and can they appear on any head in the structural spine? The main question to address is whether there is a language-parametric choice of allowing/prohibiting composite probes, or if $[A'/A]$ probes are the result of derivational processes such as head movement or phrase fusion which might, in principle, happen in any language. I suggest that both options can be the case and there is different pathways on which composite probes may enter a derivation. They may be introduced as a language-specific parameter (affecting, for example, all phasal heads) but also, independently from that, can have a derivational source. This correctly predicts that i) composite probes are less common than bare probes. If they are not (always) the default set-up of a head, but the result of an extra process (like head fusion), we expect them to be much less common than bare probes, as they are less economical and ii) A'/A probing does not necessarily affect all movement operations in a given language but often only occurs in very specific configurations. $[A'/A]$ probes often co-exist with bare $[A']$ and $[A]$ probes (within a single language): Mandarin Chinese, for instance, exhibits A'/A probing only in BEI-passives and low topics/foci, not as a general tool for movement operations. Similarly, CPs in languages allowing Hyperraising or long-distance agreement are not generally permeable for A-operations; thus the $[A'/A]$ probe therein is not a general property of CP. This is expected if we assume that one way for $[A'/A]$ probes to enter a derivation is via a very head-specific, derivational process. On the other hand, languages like Dinka seem to introduce A'/A probes on all phasal heads (C and Voice), which speaks for a general requirement of C and Voice to involve $[A]$ in this language. Thus, Dinka $[A'/A]$ probes might not be the result of a derivational

³³My account on multiple probing in Balinese is not fully worked out and many parts of it are left open for future research; for example how such probing behaves in long-distance contexts or how the agent DP is case-licensed (if we assume that it is usually verb-adjacent for licensing requirements, as suggested in Erlewine, Levin, and van Urk, 2017; **ErlewineLevinvanUrk2019** and chapter 7 of this thesis).

process but the default featural make-up of certain heads. All of this is expected if we assume that composite $[A'/A]$ probes are a complex phenomenon that can have various origins.

In the following, I lay out some potential pathways of how $[A'/A]$ probes may enter syntactic structure. This is based on the assumption that languages come with a default distribution of $[A']$ and $[A]$ probes in the functional spine; $[A']$ probes are merged on phasal heads whereas $[A]$ probes are found lower. There are multiple ways of how to derive this distribution (e.g. feature inheritance; Richards, 2007; Chomsky, 2008; Miyagawa, 2010; Obata, 2010). Whichever implementation we choose, the descriptive outcome is the same: across languages, there seems to be one dominant pattern, namely that A' -movement inducing probes are introduced on phase heads (C and Voice) but A -movement inducing probes are not. This default pattern is reflected in all positional accounts to the A'/A distinction: higher functional domains (like CP) host A' positions, whereas lower domains host A -positions. I propose that composite probes are always the exception to this distribution. What does this mean? This means, there probably is an "economical way" of how to distribute $[A']$ and $[A]$ probes in the syntactic structure, most likely interleaved with structural complexity (the higher ends or a phase are more A' -domain like, the lower are A -domains) and then there are a "less economical options" by which these probes can be bundled together and A -probes can end up on phase heads. A way of formulating how this is less economical could be that the window for A -operations needs to be kept open for longer. This means, if we assume structures build from bottom to top and A -operations happen before A' -operations, then in a language like English, the time frame for A -operations needs to be kept open only until after TP has been built. In a language like Dinka, on the other hand, the time frame needs to be kept open until CP is built, which might be more costly. If $[A]$ probes high in the structure (i.e. composite probes) are less economical, we expect them to be less frequently found in natural language: this seems to be the case. Composite constructions which appear to be much less wide-spread than bare A' - or A -derivations. Note that, of course, this is a very indo-european centered take on world's languages and, from another perspective, it might very well be the case that the reverse is true: potentially, composite probes are much more frequent than we think, and bare probes are derivationally more costly. So far, the empirical database on composite probing is too scarce to decide what kind of "default" we are lacking at; hopefully, in another couple of years, we may turn around our perspective and perceive English as the exception to the norm. The following is still based on "English as the norm" and presents some thoughts on how $[A'/A]$ probes may arise as exception to the norm. Put together, I assume that what happens in $[A'/A]$ probing is nothing else than that an A -movement inducing probe somehow made it onto a phase head, and thereby induces A -movement to a position higher than usual. Potential reasons for this "somehow" are listed below.

4.11.1 Lack of feature inheritance

One way for composite $[A'/A]$ probes to enter a syntactic derivation could be a lack of feature inheritance (see Legate, 2014; Katochoritis, 2023 for related proposals). *Feature Inheritance* is the claim that $[\phi]$ -features standardly enter the derivation in CP (together with $[A']$ features) and are then inherited downwards to TP (a.o. Richards, 2007; Chomsky, 2008; Obata, 2010). The same mechanism has been suggested for VoiceP and VP; $[\phi]$ is originally introduced on Voice/*v* and then inherited

by V. Miyagawa, 2010 proposes that C-to-T feature inheritance may occur in different versions across languages: i) both $[\phi]$ and $[A']$ remain on C, ii) $[A']$ remains on C, $[\phi]$ is inherited by T, iii) both $[\phi]$ and $[A']$ are inherited by T and iv) $[A']$ is inherited by T whereas $[\phi]$ stays on C. Miyagawa, 2010 does not explicitly talk about composite $[A'/A]$ probes, solely about the option that both $[\phi]$ and $[A']$ features can occur on the same head, given the form of inheritance a specific language chooses. In nowadays' terms, option i) and iii) would probably be classified as a composite probe. Mursell, 2021 applies Miyagawa's system to $[A'/\phi]$ probes involved in long-distance agreement (both on C as well as on Voice). He assumes that in languages allowing LDA, $[\phi]$ remains on C and on Voice. This analysis seems appealing as it predicts a certain systematicity via which language will exhibit $[A'/A]$ probes; and at least for some languages, feature inheritance seems to make the right predictions about the distribution of $[A']$ and $[A]$ features. Dinka, for example, seems to exhibit composite probes on all C and Voice heads, thus a feature inheritance approach works well here. One could assume that $[\phi]$ -features are in general not inherited in Dinka but remain on C and Voice. Thereby, both phasal heads always attract A-movement to their specifiers. Even though a feature inheritance approach works for some languages, it is not applicable for all instances of composite probing; I suggest that it is only one out of several options of how composite probes may emerge.

Setting aside feature (under)inheritance, there are at least three other options (and most likely more) in which composite probes may enter the syntactic derivation: i) via phrase fusion, ii) through syntactic language change and iii) as a form of non-canonical passive heads.

4.11.2 Head/phrase fusion

In Lohninger, Kovač, and Wurmbrand, 2022, we suggest that $[A'/A]$ probes in Hyperraising/LDA are the result of two fused phrases: most languages allowing Hyperraising and LDA are not analyzed as generally exhibiting $[A'/A]$ probes in their CPs, thus are most likely not subject to parametrical under-inheritance of $[\phi]$ to T. Further, Hyperraising/LDA always alternates with a "regular" A' -CP, hence not all CPs in these languages exhibit $[A'/A]$ probes. Rather, it seems to be the case that in the standard case, these languages carry $[A']$ features on C and $[A]$ features on T and only in the case of Hyperraising/LDA configurations, embedded C may exhibit an $[A'/A]$ probe. Lohninger, Kovač, and Wurmbrand, 2022 propose that the emergence of $[A'/A]$ has a derivational source: the embedded is merged as fused CP + a Relator Phrase RelP (den Dikken, 2017). RelP is originally merged between matrix VP and embedded CP, is predicational (and thereby carries $[A]$ features) and is usually used to mediate configurations like Prolepsis. Some languages, that is the ones allowing Hyperraising and LDA, allow RelP to be merged with CP, rendering a conjoint RelP+CP phrase. The head of such a phrase carries features from both phrases, that is $[A']$ from C and $[A]$ from Rel. Thereby, the composite probe $[A'/A]$ on Rel+C is the result of a derivational fusion process (for more details see chapter 6) and does not affect the featural make-up of phase heads in general; it only occurs on (selected) embedded C heads. This is visible from the optionality of CCA configurations as well as from the co-occurrence of Hyperraising/LDA with bare A- and A' -movement. First, CCA configurations always alternate with non-CCA complement clauses, showing that C in these languages can either occur as a fused Rel+C head (and carry an $[A'/A]$ probe), or as pure C head (exhibiting only $[A']$). Next, Hyperraising/LDA are always only a subset of possible movement operations; languages allowing Hyperraising/LDA also allow exhibit bare A' - and A-movement.

Thus, a composite probe may be the result of a very specific fusion process, affecting only one very specific head in the clause. Relatedly, Erlewine, 2018 proposes that in Austronesian, composite probes may enter the structure via a fusion of C and T, rendering a composite head C+T with a composite probe $[A'/A]$. He, too, assumes that this fusion is optional, and composite probes can co-occur with bare $[A']$ and $[A]$ probes within in the same language.

4.11.3 Language change

I propose that another reason for the emergence of $[A'/A]$ probes is syntactic language change (for a more detailed argumentation see chapter 7. Along the lines of Lohninger and Katochoritis, to appear, I suggest that composite probes in the Austronesian languages Balinese and Malagasy are the result of an ongoing syntactic topic to subject grammaticalization process. Promotion to pivot in these two languages is a process that mixes properties of topicalization and subject promotion. I suggest that composite $[A'/A]$ probes in such configurations is derived by structural topic lowering, whereby a low CP projection (TopP) fuses with TP and is analyzed as both a subject (A-) and topic (A'-) position. The head Top+T exhibits both $[\phi]$ and $[\text{top}]$ features, thereby constitutes a composite probe. In Object and Patient Voice (OV/PV), that is when an object is promoted to pivot and thereby crosses the external argument, the composite probe on Top+T has further repercussions on VoiceP. Topic-as-subject reanalysis often goes hand in hand with passivization, particularly when an object topic is involved (Van Gelderen, 2022). Thereby, the OV/PV Voice head is interpreted as non-canonical passive; non-canonical passives heads, again, seem to often involve $[A'/A]$ probes (see also Mandarin and Khanty in the next subsection). I assume that this, too, roots in the mixture of topicalization and subject promotion going on upstairs of the clause: the object needs to become a topic, thereby is mediated by $[A']$ on Voice; simultaneously, Voice cannot license its object and needs to allow it to A-move out of VoiceP, thereby needs to carry an A-movement inducing probe. This renders a composite probe.

4.11.4 Non-canonical passive Voice

In some languages, $[A'/A]$ seems to be introduced by certain passive Voice heads; Mandarin, Khanty and (as suggested above) Balinese and Malagasy behave this way. Potentially, $[A'/A]$ on passive Voice is a form of an in between stage too; in Khanty, it could be similar to Balinese and Malagasy (a former topicalization structure becomes passive-like). For Mandarin BEI passives, F. Chen pointed out to me, that the BEI morpheme in Mandarin passives is sometimes argued to have grammaticalized from a relativizer into a passive marker. If this is the case, then this is another instance of an $[A'/A]$ probe emerging because A'-extraction is reinterpreted as A-movement. This is only a hypothetical idea and needs a much more thorough syntactic implementation before becoming a proper theory; however, it is striking that several cases of "unusual" passives have been analyzed as involving an $[A'/A]$ probe and there might be a connection between this and the diachronic formation of these passives.

To conclude, I assume that there are multiple pathways of how $[A'/A]$ probes can enter the syntactic derivation, some of which are conditioned parametrically (e.g. via $[\phi]$ under-inheritance) and thereby occur in all configurations in a given language, others result from derivational processes like head/phrase fusion or are the result of language change. Assuming that composite probes have different origins accounts

for the fact that they often co-occur with bare [A] and [A'] probes within a single language, or that they are found only very construction-specifically. Further, processes like phrase fusion are always less economical than the "default" configuration, as they involve an additional derivational step. If (some) composite probes are the result of derivational processes like phrase fusion, this might explain why they are much less frequent in natural language than bare probes: from a structure-building perspective, they are more costly.

4.12 Conclusion

In this section, I brought forward a syntactic implementation of composite [A'/ ϕ] probes. This syntax will be used to explain the systematic distribution of A'/A properties we find in the composite derivations under discussion in the subsequent chapters. I started by disentangling what is mixed in mixed derivations and what is not; I suggested that the movement chain itself is always either A (abstracting over individuals) or A' (abstracting over choice functions). Hence, "composite A'/A movement" does not exist. What may be composite, though, are the features involved in the probing head: a probe may either consist of a bare [A'] or [A] feature or of a bundle of these two, [A'/A]. If the latter is the case, the probe searches for a goal that complies both with its A'- as well as A-requirements; the movement chain a composite probe invokes is, however, always either an A- or A'-chain. What follows from this is that the Ban on Improper Movement holds for movement induced by composite probes just as much as it does for any other movement chain: A'-movement cannot feed into a subsequent A-movement chain. Further, I argued that composite [A'/A] probes probe in unison for a goal that fits both its requirements (*Multitasking* or *conjoined probing*); thus its probe needs to carry [ϕ]-features as well as [A'] features (such as [top], [foc], [wh] or [rel]). After having found a fully fitting goal, an [A'/A] probe can either induce A'- or A-movement thereof. This depends on whether its [ϕ] or [A'] probe is merged as a strong, movement inducing probe, defined by an [EPP] sub-feature. Adopting a featural approach to movement, [ϕ] probes trigger A-movement whereas [A'] probes induce A'-movement. Thereby, if [A'/A] is merged with a strong [ϕ] feature, it will induce A-movement. If it is merged with a strong [A'] feature, it triggers A'-movement. I proceeded with arguing that composite [A'/A] probes probe are A'/A-minimal and insensitive to defective intervention. This means, they search and attract a fully fitting goal and ignore partial fits on their way. This claim is primarily based on [A'/A] probes in the Voice domain, as A'/A minimality may be obscured by phasality: an [A'/A] probing head (like any other head) can only look as far as the specifier of the next phase. Both CP and VoiceP are phasal and can, independently from each other, carry an [A'/A] probe. This enables different versions of successive-cyclic movement mediated by [A'/A] heads which, on the surface, might look like defective intervention but is, in fact, only a surface effect of phasality. I proceeded with a discussion of what happens when no fitting A'/A goal or multiple fitting goals are found in the search space of an [A'/A] probe: I investigated the language-specific option for last-resort independent probing for two separate goals as well as multiple probing when there is more than one fully fitting goal available. In the last section, I discussed the origin of composite [A'/A] probes, concluding that they may enter the derivation via different pathways; I suggested that feature under-inheritance, language change, non-canonical passive heads and head/phrase fusion are potential sources for [A'/A] probes.

In the next chapter I use the syntax developed here and show how it is able to predict the empirical distribution of A'/A properties we find in composite A'/A configurations. I will propose that different properties of the A'/A distinction tie to different parts of syntactic derivation; some are influenced by the probing head, others by the movement chain or the height of the probe in the clausal spine. The syntax developed in this chapter allows us to dissociate (to some degree) between probing head and movement chain, which, as will be shown in the next chapter, will be necessary if we want to capture the empirical patterns we find. Whilst this chapter focused on HOW $[A'/A]$ probes probe, the next chapter tackles the question WHY some properties are determined by the movement chain whilst others are influenced by the probing head or its location.

Chapter 5

Refining the A'/A Distinction: The A'/A Signature

5.1 Introduction & Overview

Chapter 4 presented a syntactic implementation of composite $[A'/\phi]$ probes. The main claims were the following: i) composite $[A'/A]$ probes search for fully fitting goals, and are able to skip partial fits ii) the movement chain a composite probe triggers is either of type A or A' (depending on which part of the probe is merged as strong, movement-inducing feature), and iii) composite $[A'/A]$ probes can occur on different phasal heads (C or Voice). Thereby, there are three factors involved in composite probing:

- (1) *The three factors involved in composite A'/A configurations*
 - a. The probe $[A'/A]$
 - b. The movement chain (A or A')
 - c. The location of the probe (C and/or Voice)

This chapter is concerned with investigating how this syntax is able to explain the attested mixtures of A'- and A-properties in composite configurations, and proposing why certain properties tie to the movement chain whilst others are dependent on the probing head. The last part of this chapter will provide a first glance on the supporting empirical data, which will be repeated in detail in chapters 6, 7 and 8. The main goal of this chapter is to tie the theoretical syntax developed in chapter 4 to the empirical findings, lay out in what ways composite configurations are systematic when viewed from a comparative perspective and suggest a tripartite understanding of the binary A'/A signature. To recap, composite A'/A configurations are called "composite" because they exhibit properties from both sides of the classical A'/A distinction in table 5.1 within a single movement derivation.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
interacts with ϕ	+	–
interacts with case	+	–
can bypass intervening DPs (minimality)	–	+
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	no	mostly yes
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 5.1: A'- vs. A-movement

Most of the existing accounts of A'/A constructions are unspecific when it comes to disentangling what exact composition of A'- and A-properties is triggered by composite probing and/or how the exact A'/A mixture of a construction comes about; many accounts refer to "mixed A'/A movement" as if it was a uniform movement derivation (e.g. van Urk, 2015; Longenbaugh, 2017; Chen, 2023). This is cannot be the case: empirically we find different combinations of A'- and A-properties in mixed A'/A constructions. However, when examining composite derivations from a comparative perspective, we see that the attested combinations of A'- and A-properties are highly systematic. I suggest that these patterns are to a large degree predicted by the syntax developed in chapter 4. Based on this syntactic analysis, I propose in this chapter that the classical A'/A distinguishing properties divide into three classes: such which track whether the movement chain is A or A', such which indicate the nature of the probing head (composite or bare) and such which are determined by the location of the probe. Table 5.2 summarizes what property ties to which factor.

i)	movement chain:	$\Rightarrow$ <i>case-marking, antecedents for anaphor binding, WCO, PGs, feeding subsequent A-mvt, reconstruction effects</i>
	A' or A	
ii)	probing head:	$\Rightarrow$ <i>restriction to nominals, minimality effects, information-structural/ clause-typing effects, ϕ-agreement</i>
	[A'],[A],[A'/A]	
iii)	location of probe:	$\Rightarrow$ <i>can cross CP; successive-cyclic (A-)movement</i>
	C, Voice	

TABLE 5.2: A tripartite division of A'/A properties

The properties tracking the movement chain will be accounted for in the following way: along the lines of van Urk, 2015, I assume that A-movement abstracts over individuals whilst A'-movement abstracts over choice functions; only the former allows bind variables from its landing site (thereby obviating weak crossover effects and creating new antecedents for anaphor binding) but cannot be combined with a parasitic gap adjunct. Further, morphological case-assignment is done via a dependent case algorithm which only operates on A-positions; thereby A- but not A'-movement has repercussions on case. Reconstruction effects tie to the ability to late-merge lexical material in the landing site (Takahashi and Hulse, 2009); late-merge is only permitted under A- but not under A'-movement. Last, A'-movement cannot feed into A-movement; I take the Ban on Improper Movement is an independent, language-universal constraint which follows from the timing of syntactic

operations (Abels, 2007). The properties tracking the probing head show what the probe selected for; if a composite probe was involved, it looked for a fully fitting goal. Such a goal must carry both $[\phi]$ as well as $[A']$ (information-structural or operator) features, but does not need to be the closest ϕ -goal (as composite probes are not sensitive to defective intervention). ϕ -agreement can be established because the composite probe partly consists of a $[\phi]$ -feature. That there is a dissociation between probing head and movement chain follows from the syntax developed in chapter 4. If we assume that a composite probe can induce either A- or A'-movement, four possible combinations of probing heads and movement chain arise, depicted in (2).

- (2)
- a. $[\bullet A \bullet]$ inducing A-movement
 - b. $[\bullet A' \bullet]$ inducing A'-movement
 - c. $[A' / \bullet A \bullet]$ inducing A-movement
 - d. $[\bullet A' \bullet / A]$ inducing A'-movement

Last, whether a movement chain can cross a CP boundary is defined by the location of the movement-inducing probe; if it sits on phasal C, it allows movement to leave the CP clause, irrespective of whether the movement chain is A or A'.

Tying the A'/A distinction to three distinct and independently modifiable factors predicts a systematic distribution of A'/A properties in composite probing configurations: it suggests that some properties should always cluster together in their values, whereas others are variable. E.g.: the properties tying to the movement chain should allow exactly two clusters of values: one for A-movement and one for A'-movement. Where we expect to find variation is in the properties that tie to the probing head and those which tie to the location of the probe. This prediction is borne out but becomes evident only when comparing composite probe configurations with each other and contrasting them with bare A'- and A- constructions. In doing so, we see that languages exhibit a predicted variety of what I term *A'/A signatures*; that is the construction-specific mixture of A'- and A-properties, defined by the specific combination of i) probing head, ii) movement chain and iii) probe location. This implies that English A- and A'-movement are only two out of several attested A'/A signatures. Notably, there is no infinite amount of possible A'/A signatures; they are restricted to the combinatorial options of factors i)-iii).

The chapter is organized as follows: Section 5.2 presents an outline of the chapter and the conclusions we will reach at its end. Section 5.3 summarized the properties tracking the quality of the movement chain (A' or A). These are i) association with case, ii) weak crossover effects, iii) parasitic gap licensing, iv) the option to feed subsequent A-movement and, to some extent v), reconstruction effects. In section 5.4, I investigate which properties tie to the probing head ($[A]$, $[A']$ or $[A'/A]$); these are i) information-structural effects, ii) the restriction to nominals and ϕ -bearing elements, iii) feeding ϕ -agreement and iv) the absence of A-minimality effects. When a composite $[A'/A]$ probe is involved, all four of them are present, whereas bare A- or A'-configurations only involve a subset of i-iv). In section 5.5, I discuss the option of $[A'/A]$ probes being located on different heads; if they are present on a phase-edge C, they allow A-movement to cross a CP boundary. Section 5.6 shows that these three factors (movement type, probe type, location of probe), predict different combinatorial options for single languages, i.e. the language-specific A'/A signature. Section 5.7 presents empirical examples of possible A'/A signatures: I build on data from promotion to pivot in Dinka, Balinese, Malagasy, passives and low topics/foci in Mandarin Chinese, passives in Khanty, as well as Hyperraising and long-distance agreement (in a set of unrelated languages). Chapters 6, 7, and 8 are concerned with

in-depth discussions of these empirical findings. I conclude in section 5.8, summarizing how the A'/A signature enriches our understanding not only of composite [A'/A] probes but of the A'/A distinction in general.

5.2 Finding patterns in chaos

As already sketched out in chapter 2, composite A'/A constructions exhibit different mixtures of A'/A properties. Empirically, a variety of possible A'/A combinations is attested, summarized in table 5.3. Crucially, not all A'/A constructions show the exact same distribution of A'- and A-properties. Thus, accounts that speak of "mixed A'/A movement" as if it was one single movement operation (e.g. van Urk, 2015; Longenbaugh, 2017; Chen, 2023) miss to capture the variation we find across languages.¹

	feeds case	WCO	anaph. bind.	PG	feeds A-mvt	info- struct. effects	restr. to ϕ -goal	ϕ - agree	A- mini- mal	can cross CP
i)	×	✓	×	n/a	×	✓	✓	✓	×	✓
ii)	✓	×	✓	×	✓	✓	✓	✓	×	✓
iii)	✓	×	✓	n/a	✓	✓	✓	✓	×	×
iv)	✓	×	✓	n/a	✓	✓	✓	✓	✓	✓

TABLE 5.3: Empirically attested combinations of A'/A properties (in mixed configurations)

- i) Long-distance agreement
- ii) Dinka, Balinese, Malagasy promotion to pivot
- iii) Mandarin BEI passives & low topics/foci, Khanty passives
- iv) Hyperraising to subject/object

In this chapter I show that the A'/A mixtures listed in table 5.3 are neither random, nor unpredictable: in fact, the exact distribution of A'/A properties in a composite construction is highly systematic and the loci of variation we find can be straightforwardly predicted. They all follow from the uniform composite probe analysis proposed in the preceding chapter, briefly summarized in (3).

(3) *The [A'/A] analysis in a nutshell*

- a. **A composite probe searches for a full fit and is not sensitive to defective intervention.** Thus, if a composite probe is involved in movement, the attracted goal has to be both a ϕ -goal as well as involve information-structural or clause-typing effects, and can cross intervening DPs.
- b. **A composite probe induces either A'- or A-movement**, thus the moved goal either patterns with A'- or A-movement.
- c. **Composite probes can enter a derivation in different ways**, thereby occur on different phasal heads (C and/or Voice), which determines whether movement can cross a CP and proceed successive-cyclically.
- d. **[A'/A] can split up and probe independently** is no fully fitting goal is found. Independent probing is a language-specific last-resort option to salvage a derivation.

¹Note that particularly the values for parasitic gaps are, unfortunately, not attested in all constructions.

I propose that the first five properties of table 5.3 (case-assignment, WCO effects, creation of new antecedents for anaphor binding, parasitic gap licensing, the ability to feed subsequent A-movement) tie to the movement chain itself, which is either A' or A (thereby either abstracts over choice functions or individuals). The next four properties (information-structural/ clause-typing effects, restriction to ϕ -goals, the ability to establish ϕ -agreement and the lack of A-minimality) tie to the presence of a composite probe as movement trigger. Note that we expect all [A'/A] probes to lack A-minimality effects; the variation in A-minimality we see in table 5.3 ties to the absence of an [A'/A] probe on Voice. If only C hosts an [A'/A] probe, this probe can only see as far as the VoiceP phase, thereby is restricted to the subject (see chapter 4 for a detailed elaboration). Last, the ability to cross a CP boundary has to do with the location of the movement-inducing probe; only if it sits on phasal C it allows for movement to leave CP. Putting together, the uniform [A'/A] analysis predicts that there are three factors which can influence the distribution of A'- and A-properties a specific construction exhibits, summarized in table 5.4²

i)	movement chain: A' or A	$\Rightarrow$ case-marking, new antecedents for anaphor binding, WCO, PGs, feeding subsequent A-mvt, (reconstruction effects)
ii)	probing head: [A'], [A], [A'/A]	$\Rightarrow$ restriction to nominals, minimality effects, information-structural/ clause-typing effects, ϕ -agreement
iii)	location of probe: C and/or Voice	$\Rightarrow$ can cross CP; successive-cyclic (A-)movement

TABLE 5.4: Three loci of variation in A'/A constructions

If we compare this with phrasal movement in English, we see that the binary A'/A distinction can be captured just as well by the three factors in table 5.4: English A'-movement is triggered by a bare [A'] probe, located on C (and Voice). The important contribution of this chapter is that English A'- and A-constructions only depict two combinatorial possibilities of i)-iii): when looking at a broader set of languages we find much more options for combination and thereby a much richer empirical landscape. The construction-specific combination of the three factors (the A'/A signature) describes the mixture of A'- and A-properties we expect of a specific construction. As an example, the A'/A signature of English A'-movement is shown in 5.5.

feeds case	WCO	anaph. bind.	PG	feeds A-mvt	(re-con-str.)	info-struct. effects	retrs. to ϕ -goals	feeds ϕ -agree	A-mini-mal	long distance
×	✓	×	✓	×	✓	✓	×	×	×	✓
$\underbrace{\hspace{10em}}$ <i>movement type</i> = A'						$\underbrace{\hspace{10em}}$ <i>probing head</i> = [A']				$\underbrace{\hspace{10em}}$ <i>probe on</i> C+Voice

TABLE 5.5: The A'/A signature of English A'-movement

Understanding the binary A'/A distinction as tripartite A'/A signature allows us to describe movement operations in a more fine-grained way: we can now detect variation in three loci, instead of having to describe movement operations via a

²Reconstruction effects are listed in parentheses as we find some language-specific variation there.

binary split. The expected combinations arising from the movement chain, probing head and the location of probe are summarized in table 5.6. All four are attested empirically, shown in table 5.7.³

	<i>probe</i>	<i>mvt type</i>	<i>feed case</i>	<i>WCO</i>	<i>anaph. bind.</i>	<i>PG</i>	<i>feed A-mvt</i>	<i>re-constr.</i>	<i>info-struct. effect</i>	ϕ -goal	ϕ -Agr.	<i>minimal</i>	<i>can cross CP</i>
i	A'	A'	×	✓	×	✓	×	✓	✓	×	×	A'	✓
ii	A'/A	A'	×	✓	×	✓?	×	✓	✓	✓	✓	A'/A	varies
iii	A	A	✓	×	✓	×	✓	×	×	✓	✓	A	×
iv	A'/A	A	✓	×	✓	×	✓	×	✓	✓	✓	A'/A	varies



Movement type



Probe type



on C

TABLE 5.6: Attested options for A', A and A'/A derivations

- i) English A'-movement (wh, top, foc, rel)
- ii) Long-distance agreement (chap. 6)
- iii) English A-movement (passives, subject raising)
- iv) Balinese, Malagasy promotion to pivot (chap. 7)
- Dinka extraction (chap. 8)
- Hyperraising to subject/object (chap. 6)
- Mandarin BEI passives & low topics/foci, Khanty passives (chap. 8)

TABLE 5.7: The A'/A distinction cross-linguistically

The preceding chapter showed how an [A'/A] syntax allows us to dissociate between movement chain and probing head. The goal of the current chapter is to show i) WHY certain A'/A properties tie to the movement chain itself whilst others tie to the probing head, and ii) present empirical examples of attested A'/A signatures, drawing on data from Dinka, Balinese, Malagasy, Mandarin Chinese, Khanty and a variety of languages allowing Hyperraising or long-distance agreement.

5.3 Properties tracking the type of movement

I proposed that an [A'/A] probe can either attract A'- or A-movement, depending on which of its part is merged as strong, movement inducing feature. If [A] is merged strong (marked as [A'/•A'•]), the probe will trigger A-movement, whereas if [A'] is merged strong ([•A'•/A]), the composite probe will trigger A'-movement. The kind of movement an element undergoes (A' or A) is indicated by its (in)ability to feed case assignment in the landing site, weak crossover effects, the creation of new antecedents for anaphor binding, parasitic gap licensing, the (in)ability to feed subsequent A-movement, and (to a limited extent) reconstruction effects. These five properties pattern together and take a uniform value across all composite (and bare)

³Note that at least one other combination is attested but not listed in this table, namely cases where pure A'-extraction is restricted to the closest nominal, as is, for example found in subject A'-extraction restrictions (Austronesian) or relativization restrictions. These patterns fall under what has been discussed as [A'/D] probing in chapter 2, see for example Coon, Baier, and Levin, 2021 or Branen and Erlewine, 2020.

movement configurations: that is, irrespective of whether we are looking at a composite or bare configuration, we only find two possible distributions of values: either i) a moved goal does not feed case assignment, induces weak crossover effects, does not bind anaphors from its landing site, licenses parasitic gaps, does not feed subsequent A-movement and shows reconstruction effects or ii) a moved element feeds case assignment, obviates weak crossover, can bind an anaphor from its landing site, does not license parasitic gaps, can feed subsequent A-movement and may lack reconstruction effects. The two options are shown in table 5.8.

	A-mvt ([•A•], [A' / •A•])	A'-mvt ([•A'•], [•A'• / A])
<i>Feeds case</i>	✓	×
<i>Induces WCO</i>	×	✓
<i>Feeds anaphor binding</i>	✓	×
<i>Can feed further A-mvt</i>	✓	×
<i>Licenses parasitic gaps</i>	×	✓
<i>(Reconstruction effects)</i>	×	✓

TABLE 5.8: A'- versus A-movement

This is predicted if we assume that A-movement abstracts over individuals and happens before morphological case-assignment whilst A'-movement abstracts over choice functions and happens after morphological case-assignment. The type of abstraction derives the ability of a moved element to bind variables from its landing site and license parasitic gaps. The interaction with licensing derives the presence or lack of reconstruction effects as well the partaking in morphological case-assignment. The ability to feed further A-movement is derived by the ordering of operations: A'-movement is timed after A-movement and therefore cannot feed into it. All of this reasoning will be discussed again in the course of this section. As they tie to the same factors, we expect the values of these five properties to be consistent across languages; this is borne out. They do not exhibit a random distribution or a mix-and-match pattern, but allow exactly two combinations (i.e. are either A'- or A-movement). Put differently, if we reduce the A' / A distinction to these five properties, we may obtain a binary split into A'- and A-movement, even in composite derivations.

Note that this does not mean that movement is completely dissociated from the probe it was triggered by: a head needs an [A] probe to induce A-movement and an [A'] probe to induce A'-movement; for example, a bare [A] probe cannot induce A'-movement. However, the properties listed in table 5.8 only care for the movement-triggering feature the probing head; whether this feature is part of a composite probe or not is irrelevant to them.

5.3.1 Case-assignment

The connection between A-movement and case was discussed in chapter 3. My conclusions were that A-movement, ϕ -agreement, nominal licensing and morphological case marking are to some degree independent from each other, but often (and particularly in the languages discussed in this thesis) converge on the same element. In line with the *Case Filter*, I assume that every nominal has to be **licensed** in the course of the derivation, otherwise the derivation crashes. Nominal licensing may happen structurally in an A-position; these are either thematic argument positions

or positions that have been targeted by A-movement.⁴ Adding to this, I assume that there are last-resort post-syntactic licensing strategies, such as strict verbal adjacency, which are employed on a language-specific basis (Baker, 1988; Levin, 2015).

Along the lines of van Urk, 2015, I assume that **A-movement** is triggered by a $[\phi]$ probe that is merged with a movement-inducing sub-feature [EPP] (notated as $[\bullet\phi\bullet]$).⁵ Crucially, A-movement is not induced by a nominal's need to be case-licensed; rather, $[\bullet\phi\bullet]$ attracts the closest goal it finds, irrespective of whether this goal has already been case-licensed or not.⁶ A goal moved by $[\bullet\phi\bullet]$ abstracts over individuals and creates an A-position as its landing site.

Morphological case is independent of licensing but influenced by A-movement. For morphological case assignment (m-case), I adopt a dependent case framework (Marantz, 2000; Baker, 2015; *et seq*), in which m-case is assigned configurationally, via an algorithm that case-marks arguments depending on their hierarchical relationship to each other. The dependent case algorithm only takes into account A-positions (e.g. Baker and Vinokurova, 2010; Baker, 2015; Poole, 2023); these are either thematic argument base-positions or positions that have been created by $[\bullet\phi\bullet]$ -induced A-movement.⁷ Vice versa, this means, that if a nominal is assigned m-case in a position other than its base-position, it partook in the dependent case algorithm. It is only visible to the dependent case algorithm when it sits in an A-position. Therefore, if we see m-case assignment in a derived position, we can assume that the nominal A-moved there. If it would have A'-moved to this position, it would have created an A'-position which is invisible for the dependent case-algorithm. Along the lines of Poole, 2023, I assume that the dependent case algorithm is interspersed with structure building and operates between A-movement and A'-movement operations (see also Baker, 2015; Preminger, 2011; 2014). Thereby, morphological case-assignment tracks A-movement, since only A-movement happens before m-case assignment and thereby, only A-positions feed into dependent case.⁸ This is for example visible from Mongolian Hyperraising to object: in (4), the embedded subject *dog* has been A-moved to a matrix object position; in there, it receives accusative case, thus took part in the matrix dependent case algorithm (Gong, 2022).

- (4) *Bat nokhoi-g chang-aar [t gaikhal-tai gej] khel-sen*
 Bat **dog-ACC** loud-INSTR [t wonder-with C] say-PST
 'Bat said loudly that dogs are wonderful.' *Mongolian* (Fong, 2019: 3)

⁴Setting aside A-scrambling here which does not create a case-licensing position.

⁵At least the kinds of A-movement discussed in this thesis. There must be other triggers for A-movement too in order to explain operations like A-scrambling.

⁶In chapter 3, I discussed that the movement-inducing sub-feature [EPP] on $[\phi]$ is strictly A-minimal; it attracts the closest nominal. $[\phi]$ itself can be subject to more complex minimality preferences; depending to the language, it might be sensitive to unmarked case (Bobaljik, 2008) or a specific set of $[\phi]$ -features (Deal, 2015 *et seq*). If this is the case, $[\phi]$ and [EPP] might split up and probe for two independent goals (as is for example the case in Icelandic quirky subjects). This is not directly relevant for this thesis, as none of the languages under discussion depicts such behavior (with the exception of Tsez which restricts ϕ -agreement to absolutive arguments; in Tsez, however, we are not investigating A-movement, thus this is not directly relevant for our concerns). Thus, for here, it suffices to assume that A-movement is induced by a probe $[\bullet\phi\bullet]$.

⁷Note that we need to make sure that the dependent case algorithm does not take into account A-scrambling positions. Along the lines of Abels, 2007 I assume that A-scrambling is timed after ϕ -induced A-movement. Thus, there might be an ordering like A-movement induced by $[\phi]$ » dependent case algorithm » A-scrambling. I leave open for future research how to properly implement such an ordering and what type of feature induces A-scrambling.

⁸Again, we have to set aside A-scrambling here and only take into account ϕ -induced A-movement. I leave aside a discussion about the movement-triggers of A-scrambling.

If *dog* would have A'-moved to the matrix clause, it would not be able to partake in the matrix dependent case algorithm and could not be ACC marked; it would have to keep its embedded case value (NOM).⁹ Whether the probing head that attracted this movement was a bare [A] probe or a composite [A' / A] probe is irrelevant for the dependent case algorithm, as long as the goal sits in an A-position. Based on these assumptions, I use case-assignment as criterion for tracking the movement chain, and not the probing head.

Note that I assume that in cases like (4), the raised DP *dog* partook in two dependent case assignments: once in the embedded clause (where it receives NOM) and once in the matrix clause (where it receives ACC). As pointed out in chapter 3, I assume that nothing hinders a nominal from receiving two case-values; multiple case can be stacked onto each other (Richards, 2013; Assmann, 2014; Levin, 2017; Chen, 2018), overwrite each other (Béjar and Massam, 1999; Merchant, 2006) or preserve the initially assigned value (Keine, 2018).

5.3.2 Weak crossover effects

Weak crossover effects (WCO) are cases where an operator or quantifier phrase moves across a variable. Traditionally it is assumed that if the movement is A-movement, the quantifier can bind the variable from its landing site, as can be seen from English passivization in (5a): A-movement thereby does not induce WCO. If the quantifier A'-moved, as in the English topicalization example in (5b), it cannot bind a variable from its landing site. That is, co-indexation between the quantifier phrase in its landing site and the variable are not grammatical; A'-movement induces WCO.

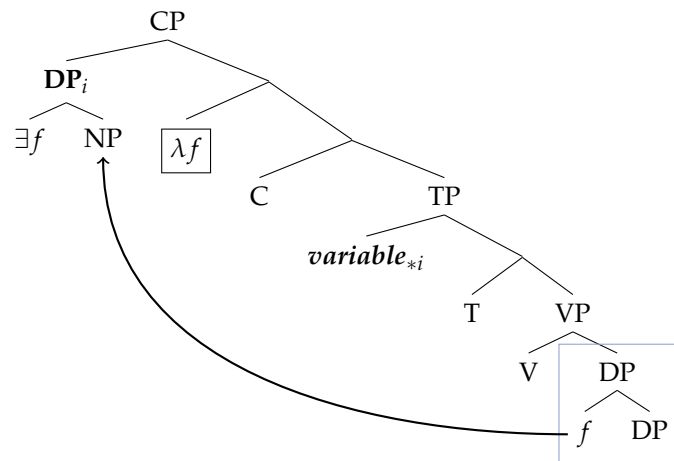
- (5) *English weak crossover*
- a. **Every professor_i** is admired by his student_i.
 - b. **Every professor_i**, his_{*i/j} student admires *t*.

The difference between the two examples, descriptively, lies in the ability of the moved element to create a new binding domain and thereby bind the variable (*his*) it crossed. van Urk, 2015 suggests that the possibility to create a new binding domain (thereby induce or obviate WCO) follows from the different semantics underlying the two movement types. A'-movement abstracts over choice functions whereas A-movement abstracts over individuals. Let us start with A'-movement: along the lines of Sauerland, 1998 and Ruys, 2000, van Urk proposes that A'-moved elements (wh-words, but also topics and foci) are existential quantifiers over choice functions. A'-chains thereby have the following interpretational rule:

- (6) *Interpretation rule for A'-chains* (van Urk, 2015: 40)
In a movement structure formed by Agree for an [A'] feature, adjoin a node λf to the probing head.

Structure (7) depicts the syntactic implementation of this rule and movement abstracting over choice functions (note that this holds both for terminal as well as intermediate movement steps):

⁹Note that nothing hinges on whether the hyperraised object moves to a derived object position in the matrix clause or remains in embedded SpecCP (as for example suggested in Şener, 2011 for Turkish). Since the DP lands in an A-position in embedded SpecCP as well, it can just as well partake in the matrix dependent case algorithm from there. What is relevant is that movement to SpecCP (as well as potential subsequent A-movement to the matrix clause) has been A-movement and creates an A-position).

(7) *A'-movement: abstraction over choice functions*

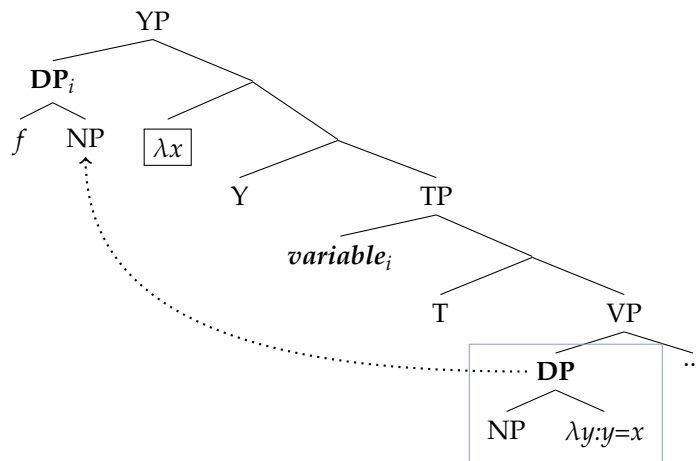
van Urk, 2015:39 then states that "if wh-movement triggers abstraction over choice functions and pronouns denote variables over individuals, then wh-movement does not provide a way of binding the pronoun to the wh-phrase: it is simply of the wrong type." This means, an A'-moved element involves the wrong kind of abstraction to bind a variable, thus A'-movement induces WCO.

A-movement, on the other hand, abstracts over individuals and is formed by the following interpretational rule:

- (8) *Interpretation rule for A-chains* (van Urk, 2015: 41)
 In a movement structure formed by Agree for a ϕ -feature, adjoin a node λx to the probing head.

The copy that A-movement leaves behind is converted to a definite description via *trace conversion* (Fox, 2002); thereby it depicts a variable which can be bound by the λ -abstraction of the moved DP. Given that the moved element can bind the variable of its own lower copy, it can just as well bind any other variable in its c-command domain; thereby, A-movement creates new antecedents for variable binding and, in the case of WCO, can bind a possessive pronoun variable below its landing site (= does not induce WCO). The respective structure is shown in (9). Note that in (9), the terminal landing site is labeled YP, as nothing hinges on the exact location of the A-moved element. Again, abstraction over individuals holds for each movement step, intermediate or terminal.

- (9) *A-movement: abstraction over individuals*



Thereby, WCO effects track the kind of movement/abstraction an element has undergone (A' or A). In my analysis, this is independent of whether movement was probed by a composite or a bare probe.

5.3.3 New antecedents for anaphor binding

The same argumentation that holds for WCO effects holds for the creation of new antecedents for anaphor binding. In English, A-movement creates a new antecedent for anaphor binding, whilst A'-movement does not, shown in (10).

- (10) a. **The girls** seem to each other's sisters *t* to be trustworthy.
 b. ***Which girls** did each other's sisters trust *t*? (Safir, 2019: 287)

If A-movement abstracts over individuals, it can bind a variable from its landing-site; reflexives are nothing else than variables, thus can be bound by an A-moved element, landing in a c-commanding position. A'-movement, on the other hand, abstracts over choice functions, thereby is of the wrong type to bind an anaphor, even if it c-commands it. One caveat of creating new antecedents for anaphor binding is the fact that reflexives in many languages resist to occur in the thematic agent position (Chomsky, 1986; Hornstein, 2001; Reuland, 2001; 2011; McGinnis, 2004; Rooryck and Vanden Wyngaerd, 2011; Charnavel and Sportiche, 2016; Brodtkin and Royer, 2024) as well as what McGinnis, 1998 terms *Lethal Ambiguity*: if a potential binder moves through the same specifier as the reflexive, binding is, in many languages, ruled out, even if the potential binder ends up in a higher position than the reflexive and is of the right semantic type. This means, if an object moves through SpecVoiceP to a higher position, and a reflexive agent is merged in SpecVoiceP, there is a stage of the derivation where both elements sit in specifiers of the same head (Voice). According to McGinnis, 1998, this can induce ungrammaticality as it creates an unsolvable binding issue. Thus, instances where A-movement is unable to bind an anaphor it crossed are not necessarily an argument against an A-movement chain, but might be caused by independent factors.

5.3.4 Parasitic gaps

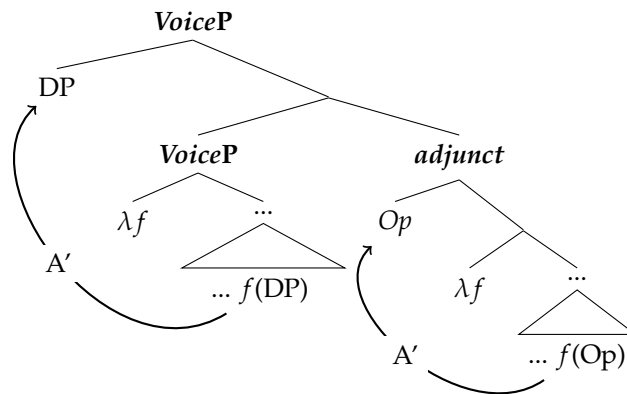
Similar to weak crossover, parasitic gap (PG) licensing signals what type of movement an element has undergone. Parasitic gaps are gaps in adjunct clauses that can

be interpreted as co-referential with A'-traces, but not with A-traces. This means, A'-movement licenses PGs whereas A-movement does not.

- (11) a. **John**, I talked to *t* [in order to impress __ (PG)] (Nissenbaum, 2000: 3)
 b. ***John** was hired *t* [without talking to __ (PG)] (Richards, 2014: 168)

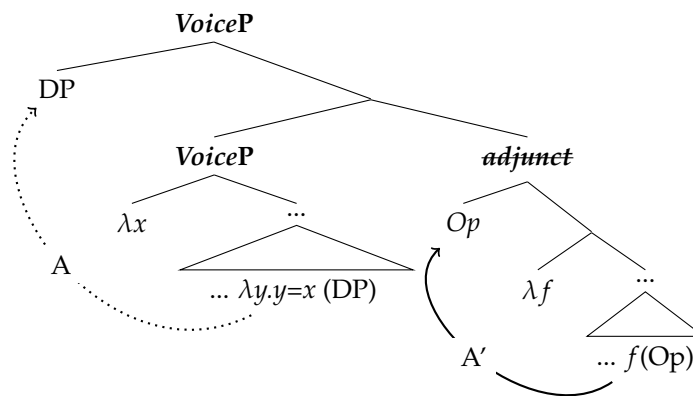
Unfortunately, for most cases of A'/A constructions there is no reported data on parasitic gaps, so this discussion is rather for the sake of completeness than an actual criterion that can be reliably used in the further discussion. I leave open for future research a thorough, cross-linguistic investigation of parasitic gaps in A'/A constructions. For now, I explain briefly why I assume that they track A'-movement and what values we expect. I follow Nissenbaum's 2000 and van Urk's 2015 analysis of parasitic gaps: they are created by null operator movement (in the adjoined clause) and subsequent conjunction of the adjunct clause and VoiceP of the main clause. A'-movement proceeds successive-cyclically through SpecVoiceP and abstracts over choice functions, thereby creates a derived predicate out of VoiceP. In the adjoined clause, a null operator (which will be interpreted as bound gap) performs the same kind of movement: it moves to the left edge of the adjoined clause and abstracts over choice functions (operator movement is taken to always be of type A', Nissenbaum, 2000). Thereby, the moved operator creates a predicate out of the adjunct clause. Conjunction can (in general) only apply to two things of the same kind. The VoiceP containing an A'-trace and the adjunct containing the moved null operator classify as the same kind of derived predicates, and thereby can be adjoined. The null operator is then licensed in a bound way; as parasitic gap.

- (12) ✓ *Parasitic gap with A'-movement: conjunction of same predicates possible*
 (Nissenbaum, 2000; taken from van Urk, 2015: 46)



A-movement does not allow parasitic gaps. It abstracts over individuals instead of choice functions, thereby creates another kind of predicate than A'-movement. So even if A-movement proceeds successive-cyclically through VoiceP (as I assume is the case), it still abstracts over individuals, whereas null operator movement abstracts over choice functions. Thereby, the two predicates (VoiceP and the adjunct) are of different kinds and cannot be conjoined, prohibiting the formation of a parasitic gap.

- (13) × *Parasitic gap with A-movement: conjunction of different predicates impossible*
 (Nissenbaum, 2000; taken from van Urk, 2015: 46)



As van Urk, 2015 argues, WCO, the creation of new antecedents for anaphor binding and PG licensing thereby have the same root; the semantics of the movement chain. Movement is either of type A, abstracting over individuals and thereby obviates WCO, creates a new antecedent for anaphor binding and cannot license PGs, or of type A', abstracting over choice functions, thereby induces WCO, cannot create a new antecedent for anaphor binding and can license PGs. These properties pattern together, irrespective of whether movement was induced by a bare or a composite probe.

5.3.5 Feeding subsequent A-movement

As discussed in chapter 4, I take the Ban on Improper Movement (BIM) to be an independent constraint on the ordering of movement chains, ruling out an A'-chain feeding an A-chain (following Abels, 2007); I assume that this constraint is universally applicable. This allows us to use the BIM in a reverse way to detect what quality an initial movement chain had. To do so, we need to look at long-distance and successive-cyclic movement configurations where two movement chains follow each other. If the second movement step is (or can be) an A-chain, this means that the initial step of movement had to be A-chain too—otherwise the derivation would have violated the BIM.¹⁰ If the second step of movement is (or can be) A', this does not give any information about the initial movement step: it could have been A or A'. Thereby the option to feed subsequent A-movement tracks the quality of the preceding movement chain. If a movement chain can feed A-movement, it cannot have been A'-movement in the first part of movement. Note that the BIM is more of a conceptual argument, based on what we believe to be universal constraints on syntactic operations. Still, as I will show in the empirical part of this section, the possibility to feed further A-movement consistently patterns with other A-movement properties. Hence, even though based on a conceptual argument, I take the BIM to track A-movement.

¹⁰Note that Kobayashi, 2020 argues that Brazilian Portuguese allows what he calls instances of *Interleaved Movement*, where a long-distance A'-movement chain can have an intermediate A-movement step as long as the final landing site has A'-properties again (so A' > A > A'). Even if interleaved movement exists, it is only partly relevant for the cases discussed in this thesis. The movement chains I investigate here all terminate in an A-position. Whilst they can optionally feed into a terminal A'-movement step, this is not required in any of the constructions under discussion. I therefore set aside interleaved movement as a refinement of the BIM and leave open for future research how these constructions might be captured under my composite probe approach.

5.3.6 Reconstruction effects

Reconstruction effects are cases where a moved element reconstructs into a lower position for interpretation. Reconstruction effects are most commonly tested with binding principle C, as this type of reconstruction provides the most reliable data for A- versus A'-movement (see also chapter 2 for discussion).¹¹ In principle C reconstruction we see the following: the base-line is a structure in which an R-expression is c-commanded by a pronoun. Principle C prohibits the R-expression and the pronoun to be co-indexed; an R-expression must be free in its local domain. If the R-expression is moved across the pronoun, there are two possible outcomes: either it reconstructs below the pronoun and co-indexation will remain ungrammatical. On the other hand, if it does not reconstruct, the R-expression is no longer illicitly bound, rendering the construction grammatical (Van Riemsdijk and Williams, 1981; Freidin, 1986; Lebeaux, 1998; Chomsky, 1995; Takahashi and Hulsey, 2009). Example (14) shows how English A-movement (passivization) of an R-expression can salvage an underlying principle C violation, whereas A'-movement (topicalization) cannot.

- (14) *Reconstruction for principle C* (Richards, 2014: 168)
- a. [Every argument that **John_i** is a genius] seems to him_i *t* to be flawless.
 - b. *[Which argument that **John_i** is a genius] did he_i believe *t*?

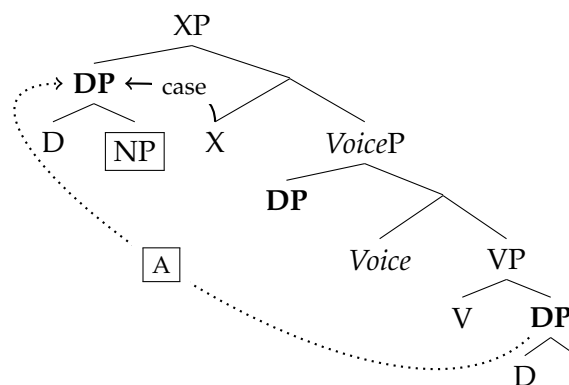
Note that reconstruction effects are not the most reliable property to test A'- or A-movement and are often influenced by additional, language-specific factors. In general, the conclusion across literature is that A-movement does not have to (but, under certain circumstances, may) reconstruct for interpretation, whilst A'-movement mostly must reconstruct (cf. Safir, 2019). I take the lack of reconstruction (also "anti-reconstruction") to indicate that an element has undergone A-movement, whilst, vice versa, I assume that the presence of reconstruction effects is not necessarily an indication for either A'- or A-movement.

The syntactic reasoning for the absence of reconstruction for condition C under A-movement (and its presence under A'-movement, respectively), is the following: Condition C is taken to be evaluated at LF and most reconstruction analyses are based on LF interpretability (Lebeaux, 1988; 1998; 1998; Heycock, 1995; Chomsky, 1995; Romero, 1997; Sharvit, 1998; Fox, 1998; Lechner, 2013). The assumption these analyses are based on is that an A'-moved element has a different LF interpretation than an A-moved element. One way to account for this contrast is the hypothesis that the trace of A-movement can be an impoverished version of the moved element whereas A'-movement must leave behind a full representation (Sauerland, 1998; Fox, 1998; Bhatt and Pancheva, 2004; Sportiche, 2005; Takahashi, 2006; Takahashi and Hulsey, 2009; Stanton, 2016; Safir, 2019; Thoms, 2019; Thoms and Heycock, 2022; Keine and Bhatt, 2023). Accounts based on impoverished traces usually build on *late merge* as theoretical tool. Late merge suggests that A-movement allows the launching site of movement to only contain a reduced phrase; in Thoms and Heycock, 2022 that is an NP, while the DP part is merged later, at the final landing site. In Takahashi and Hulsey, 2009, only D is merged in the base-position, whereas the NP part is inserted later. Whatever implementation of late merge one pursues, the basic mechanism is the same: the launching site contains a reduced phrase, the

¹¹Some data in this thesis is based on reconstruction for variable binding (a moved variable that has been bound in its base-position); mainly in the cases where there is no other reconstruction data reported.

missing part of which is only inserted after A-movement happened. Late merge allows for a DP to be interpreted in a higher position than its thematic one; simply because it is not (fully) present in the lower position, thus not interpretable for LF there. A'-movement, on the other hand, does not permit the option of late merged material; The lack of reconstruction is often tied to case assignment at the landing site (a.o. Bobaljik and Wurmbrand, 2005; Takahashi and Hulsey, 2009): late merge can only happen in a case-assigning position. If we assume that only A-movement is related to or feeds case-assignment, only A-movement allows late merge, thereby allows for an argument to be interpreted high, rendering a lack of reconstruction. A'-movement, on the other hand, is assumed to happen after case-assignment (Abels, 2007; Takahashi and Hulsey, 2009); thus is it late-merged material, this material could no longer be licensed or case-assigned and the derivation crashes. Thereby, an A'-moved phrase must be merged before movement happened and thereby is always interpreted in a lower position at LF, hence shows reconstruction effects. The structure of late merge under A-movement is abstractly depicted in (15). Note that I indicate the landing site as XP, as I do not want to make an explicit statement about the exact phrasal projection movement targets here. When the DP is moved, it only contains a D; the NP material is only late-merged at the landing site, where it also is licensed (following Takahashi and Hulsey, 2009).

(15) Late Merge under A-movement; based on Takahashi and Hulsey, 2009



Note that late merge is often taken to be an optional scenario, alternating with DP insertion at the launching site (van Urk, 2015). This renders the widely used formulation "A-movement does not need to reconstruct (but under certain circumstances can)" (see also Safir, 2019). Based on this, I take the absence of reconstruction effects (primarily for principle C) to indicate A-movement. However, the same is not true vice versa: the presence of reconstruction effects does not necessarily indicate A'-movement. Also, note that whilst most examples I bring forward show reconstruction for principle C, some also base on reconstruction for variable binding (where an initially bound variable is moved above the binder, thereby may lose its ability to be bound). Reconstruction for variable binding is even less reliable than reconstruction for principle C; however, I do not have data for principle C reconstruction from all languages. For variable binding, just like for principle C, I assume that only the lack of reconstruction indicates A-movement, whilst the presence of reconstruction effects does not show which type of movement we are dealing with.

5.3.7 Interim summary

To summarize, I suggested that the following factors track the movement chain an argument underwent: i) the possibility to feed morphological case, as the dependent case-algorithm runs on A-positions (either thematic positions or such which are the landing site of ϕ -induced A-movement). ii) The possibility to feed variable binding, thereby obviate WCO and create new antecedents for anaphor binding, and iii) parasitic gap licensing. The last two properties tie to the semantic properties of movement: A-movement abstracts over individuals whilst A'-movement abstracts over choice functions. Only the former allows to bind a variable in its c-commanding domain whilst only the latter allows for the predicate it created to combine with a parasitic gap adjunct. Next, iv) the possibility to undergo subsequent A-movement, which ties to the independent restriction of A'-movement feeding into A-movement (BIM) and can be accounted for by the timing of operations: A'-movement happens after A-movement and therefore cannot feed into it. Last, to some extent, v) the possibility to lack reconstruction for principle C, which ties to the ability late merge under A-movement but not under A'-movement. (16) and (17) summarize these claims.

(16) *A-Movement...*

- a. ... **obviates WCO, creates new antecedents for anaphor binding, does not license parasitic gaps**
 $\hookrightarrow$ A-movement is abstraction over individuals
- b. ... **can feed subsequent A-movement**
 $\hookrightarrow$ BIM does not interfere
- c. ... **interacts with case-assignment in its landing site**
 $\hookrightarrow$ the dependent case algorithm runs on A-positions
- d. ... **does not need to reconstruct for principle C**
 $\hookrightarrow$ the nominal can be late-merged in its A-landing site

(17) *A'-Movement...*

- a. ... **induces WCO, does not create new antecedents for anaphor binding and licenses parasitic gaps**
 $\hookrightarrow$ A'-movement is abstraction over choice functions
- b. ... **does not feed subsequent A-movement**
 $\hookrightarrow$ ruled out by the BIM
- c. ... **does not interact with case-marking in its landing site**
 $\hookrightarrow$ the dependent case algorithm does not take into account A'-positions
- d. ... **does not need to reconstruct**
 $\hookrightarrow$ the nominal cannot be late-merged in its A'-landing-site

As will be shown in the empirical part of this thesis (section 5.7 and chapter 6, 7, 8), these properties pattern together in all instances of composite [A'/A] probing, showing exactly two possible combinations, summarized in table 5.9. A mix-and-match distribution of the two columns is unexpected and not observed in the languages under investigation. Note that for parasitic gap licensing, the values are to a large degree stipulated (i.e. expected but not empirically proven); for most A'/A constructions, no parasitic gap data is reported.

	A-movement	A'-movement
<i>Can feed case</i>	✓	×
<i>Induces WCO</i>	×	✓
<i>Creates new antecedent for anaphor binding</i>	✓	×
<i>Can feed further A-movement</i>	✓	×
<i>(Licenses parasitic gaps)</i>	×	✓
<i>(Reconstruction effects)</i>	×/✓	✓

TABLE 5.9: Properties of A'- versus A-movement

Note that languages do not necessarily need to make all the properties in table 5.9 observable. For example, some languages do not exhibit morphological case, do not allow to form parasitic gaps (in general), do not allow reflexives in agent position or alike. A given language might therefore only make a subset of the movement-tracking properties visible. Crucially, properties might be absent but they never take the opposite value than the one expected. That is, table 5.9 might have empty slots in a given language, but does not exhibit randomly opposed values.

So far, all these properties fall from the "classical" A'/A distinction. That is, we can explain the distribution of the properties in table 5.9 without having to refer to composite probes at all. Why do I still assume that languages exhibit composite [A'/A] probing, or, put differently, why, if the kind of movement is never mixed, do we still find languages/constructions that do not clearly depict the A'/A distinction? How and where do we then see mixed A'/A behavior, if not in the movement itself? And further, why do we need composite [A'/A] probes to explain this kind of behavior? The next section will be concerned with answering these questions. Even though the movement chain is either of type A or A', a language can exhibit additional properties unusual to "classical" A' or A movement: for example a restriction to ϕ -goals, a requirement for information-structural effects or the ability to cross an intervening DP. In English, these properties pattern in their values with either A- or A'-movement (e.g. A-movement is restricted to nominals/ ϕ -goals, does not trigger information-structural effects and cannot cross intervening DPs). In other languages, as Dinka for example, A-movement is similarly restricted to nominals/ ϕ -goals but also triggers an information-structural interpretation and can cross an intervening DP. This is unexpected if it had the same syntax as English A-movement. Thus, I propose that the movement chain in Dinka is the same as it is in English; however, the head probing the movement, has different requirements and is located in a different part of the structure. In the next section I show how we can determine whether a composite or a bare probe induced movement.

5.4 Properties tracking the type of probe

In chapter 4, I argued that a movement chain can be triggered by a pure A- or A'-probe as well as by a composite [A'/A] probe. Above we saw which properties track the movement chain and why. This section is concerned with determining how we can track the kind of probing head that initiated movement. The [A'/A] probe syntax developed in the chapter 4 equips us with the tools we need to do so. What is relevant is that i) an [A'/A] probe looks for a fully fitting A'/A goal, and ii) [A'/A] is not sensitive to defective intervention and thus able to skip partly fitting goals on its way. Thus, if an [A'/A] probe was involved in the search process, the construction will be restricted to nominals/ ϕ -goals and simultaneously involves

information-structural or clause-typing effects, triggers morphological ϕ -agreement and lacks A-minimality effects. Table 5.10 summarizes the possible/predicted combinations, depending on the probing type.

	[A]	[A']	[A'/A]
<i>Triggers ϕ-agreement</i>	✓	×	✓
<i>Can cross intervening DPs</i>	×	✓	✓
<i>Restricted to nominals/ ϕ-goals</i>	✓	×	✓
<i>Information-structural effects</i>	×	✓	✓

TABLE 5.10: Properties of A', A and [A'/A] probes

The following briefly repeats how the syntax in chapter 4 derives the four properties tracking composite probes.

5.4.1 ϕ -Agreement

If a composite probe triggered movement, the moved element can ϕ -agree with the [A'/ ϕ] head it was probed by and in whose specifier it sits (or with a higher, locally close enough [ϕ] probe). Irrespective of what kind of movement the goal underwent (A' or A), if it was probed for by an [A'/ ϕ] head, it can feed into ϕ -agreement at its landing site¹² This analysis draws on a dissociation between nominal licensing, m-case and ϕ -agreement; I assume that ϕ -agreement is handled via probes alone, independent of the movement chain the goal underwent. Nominal licensing happens in A-positions (either a thematic position or a position that has been targeted by A-movement; note that A-movement can also happen to nominals which have already been licensed). Morphological case-assignment, on the other hand, is derived via a dependent case-algorithm which takes A-positions as input. I assume that ϕ -agreement can happen as soon as a [ϕ] probe is present on the probing head, irrespective whether it got there via A'- or A-movement. This follows from the assumption that [ϕ] in a composite probe can be merged as a bare agreement probe or with a movement-inducing [EPP] sub-feature. If it is merged as bare [ϕ], [A'] will induce movement but the moved element will land in a specifier of a head carrying (also) [ϕ]. I suggest that in this case, the element can ϕ -agree with the head, even if it underwent A'-movement to its specifier, based on the assumption that the [ϕ]-probe per se does not care about the movement chain but only about a goal with fitting features in its vicinity. Thereby, the presence of ϕ -agreement at the landing site tracks whether a [ϕ] probe was involved in the probing process.¹³ If a bare [A'] probe invoked movement, it will not establish ϕ -agreement with the goal it attracted. Thus, ϕ -agreement combined with A'-movement is only possible in a composite probe scenario.¹⁴

¹²Note that a ϕ -probe can, in principle, be specified for a certain -goal. In this case, I assume that an additional mechanism applies which allows the ϕ -probe to split up from the movement probe and target an independent goal.

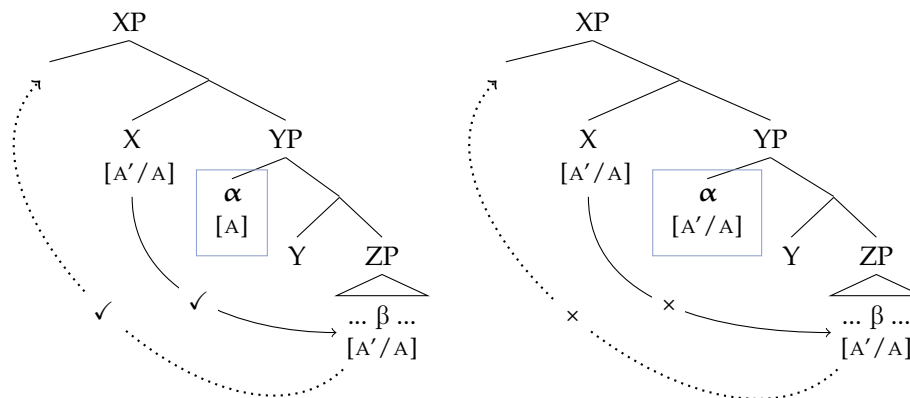
¹³Note that in this thesis, the only example for A'-movement induced by [A'/A] comes from long-distance agreement. In long-distance agreement, the moved DP does, in fact, not undergo ϕ -agreement with the probing head but only with a higher [ϕ] probe. In chapter 6, I suggest that the composite [A'/ ϕ] probe on C mediates this process (cf. Mursell, 2021) but does not establish overt agreement itself.

¹⁴Note that an alternative scenario would be that [A'/A] probes do not consist of [A'/ ϕ] but of [A'/D]. In these cases, we would not expect to find ϕ -agreement with the moved goal; I do think that certain instances of composite probing might be better captured under a [A'/D] probe. In these cases we would have an [A'/A] probe but not necessarily -agreement.

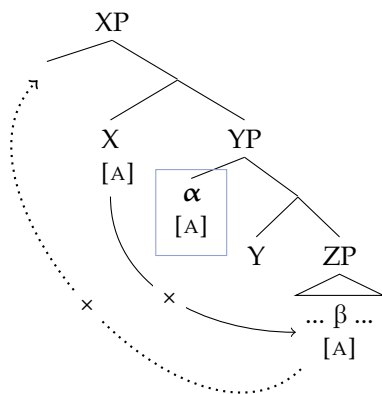
5.4.2 Ability to skip an intervening ϕ -goal

In chapter 4, section 4.8, I suggested that composite $[A'/A]$ probes are not sensitive to defective intervention but probe for the best fitting goal. This is a goal that carries both the relevant $[A']$ and $[A]$ features; hence $[A'/A]$ probes are A'/A minimal. Thereby, a goal attracted by an $[A'/A]$ probe does not need to be the closest ϕ -goal, and, vice versa, movement induced by an $[A'/A]$ probe can skip an intervening DP. Note that bare $[A']$ probes are A' -minimal, thereby (like $[A'/A]$ probes) not sensitive to bare ϕ -goals in their way. Thus, movement induced by $[A']$ can, too, skip intervening DPs. For bare $[A]$ probes, this is different; they are A -minimal, which means they can only attract closest ϕ -goal. Thereby, A -movement induced by bare $[A]$ cannot skip an intervening DP. The options of A'/A minimality, A -minimality and A' -minimality are depicted in (18) and (19).

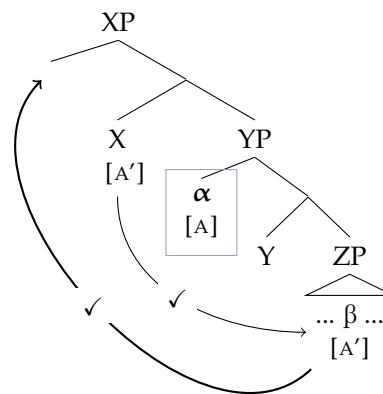
(18) *A'/A-minimality profile of $[A'/A]$*



(19) a. *A-minimality profile of $[A]$*



b. *A'-minimality profile of $[A']$*



Note that $[A'/A]$ probing is restricted by CP and VoiceP phasality and a probe can only search as far as the next accessible phase edge. Since both CP and VoiceP can (independently from each other) carry $[A'/A]$ probes, A'/A minimality effects are sometimes obscured by phasality. We saw this for Hyperraising constructions, which often are restricted to the subject, even invoked by an $[A'/A]$ probe. This is the case because $[A'/A]$ in these constructions only occurs on C and may only see

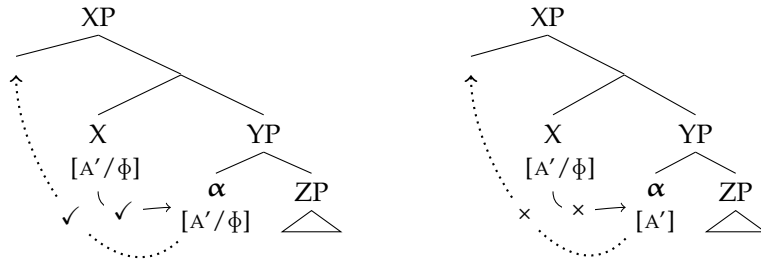
as far as VoiceP; thereby, it can only find the subject (see chapter 4, section 4.9 for discussion), unless the language allows an independent way of A-moving the object out of VoiceP and making it accessible to [A'/A].

5.4.3 Restriction to nominals/ ϕ -goals

A composite probe searches for a goal that fits both its A- and A'-requirements. Thereby, an [A'/ ϕ] probe wants a goal that carries accessible [ϕ] features; this can either be a nominal (DP) or a whole complement clause (see Rackowski and Richards, 2005; Pesetsky and Torrego, 2007; Halpert, 2012; 2019; van Urk and Richards, 2015). PPs, adjectives, adverbs, or VPs are inaccessible to [A'/A] as they do not depict ϕ -goals. [A'/A] probes resemble bare [ϕ]-probes in this property; they, too, can only attract a goal with accessible [ϕ] features. [A'] probes, on the other hand, are only sensitive to the [A'] features of a goal, thereby not restricted to ϕ -goals. An [A'/A] probe's need for a fitting goal including [A'] features is depicted in (20).

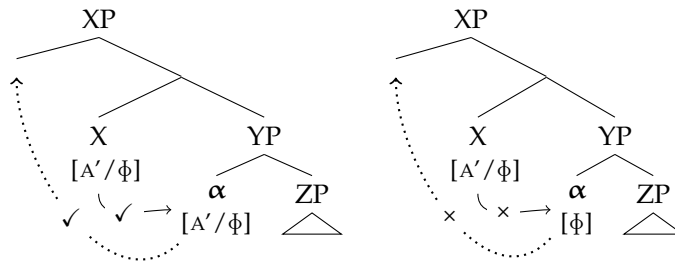
(20) a. ✓ *Fitting A'/A goal*

b. ✗ *Bare A' goal*



5.4.4 Information-structural/ clause-typing effects

[A'/A] probes are not only restricted to ϕ -goals but at the same time to elements that have information-structural or clause-typing effects, e.g. that are topics, foci, relative- or wh-elements. This property ties to the [A'] feature involved in the composite probe, which requires a fitting goal with [wh], [top], [foc] or [rel] features. Only elements that contain both [A'] and [ϕ] features are visible to an [A'/A] probe; thereby the goal needs to be both a ϕ -goal as well as involve an [A'] feature of some sort. A bare [A'] probe would only care about the latter; a goal that carries an [A'] feature of some sort, that is one that corresponds to a topic, focus, relative- or wh-element. A bare [A] probe, on the other hand, is insensitive to that; its goal does not need to involve any [A'] features and thereby does not need to have repercussions on information-structure or clause-typing. An [A'/A] probe's need for a fitting goal (including [A'] features) is depicted in (21).

(21) a. ✓ *Fitting A'/A goal*b. × *Bare A goal*

In the rest of this thesis I summarize this property as "information-structural effects". What this means is that a form of [A'] feature needs to be present on the goal, may it be [top], [foc], [rel] or [wh].

5.4.5 Interim summary

To summarize, four properties track the probing head and appear to be independent from the movement chain: i) ϕ -agreement and ii) the restriction to noun-phrases and ϕ -goals, iii) the ability to cross intervening DPs, and iv) the obligatory involvement of information-structural/clause-typing effects. A probing head can come in three forms: as a pure [A] probe, as a pure [A'] probe or as a composite [A'/A] probe, allowing three different combinations of the properties i)-iv), repeated in table 5.11 below. The fact that a composite probe requires all four properties listed in table 5.11 follows from the analysis that has been presented in chapter 4.

	[A]	[A']	[A'/A]
<i>Triggers ϕ-agreement</i>	✓	×	✓
<i>Can cross intervening DPs</i>	×	✓	✓
<i>Restricted to nominals/ ϕ-goals</i>	✓	×	✓
<i>Information-structural effects</i>	×	✓	✓

TABLE 5.11: Properties of A', A and [A'/A] probes

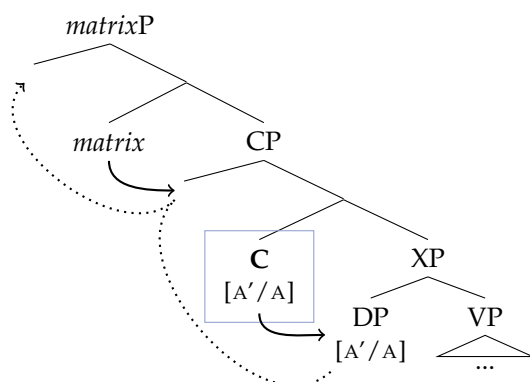
As will be shown in the remainder of this chapter, empirically, we do not find a random, anything goes mixture of these four properties but only the combinations listed in table 5.11. These are the properties where the true mixed behavior of A'/A constructions roots; if a construction involves a composite probe, it is restricted to all properties from table 5.11.

5.5 Location of the probe

The last factor of the A'/A signature is the location of the probe and, related to that, the ability for movement to proceed across a CP boundary. In the traditional A'/A distinction, this property is reserved for A'-movement; A-movement may only leave complement clauses smaller than CP. I argue that the possibility to leave a CP complement clause ties primarily to the location of the movement triggering probe (see also chapter 4, section 4.9): if the probe is located on the phase head C, it will trigger movement to SpecCP (irrespective of whether the movement chain is of type A or A'). The restriction for English A-movement to stay within CP ties solely to the lack of [A] features in English CP, not to a general ban on A-movement

leaving a finite clause. English exhibits [A] probes only on T, hence A-movement targets SpecTP. A-movement can only leave an embedded clause if this clause is a TP (or smaller). If a CP layer is present, movement has to proceed through SpecCP (given the Phase Impenetrability Condition), but since English C only carries [A'] features, movement to SpecCP has to be A'-movement. Such movement can then not feed subsequent matrix A-movement (given the Ban on Improper Movement). Thus, English A-movement cannot cross a CP boundary. If we imagine a language in which C carries an [A'/A] probe (instead of a pure [A'] probe like English), the intermediate movement step (from SpecTP to SpecCP) could be A-movement, thus can feed subsequent matrix A-movement.¹⁵ The respective structure is shown in (22).

(22) Long-distance (A-)movement mediated by [A'/A] on C



I suggest that the ability to cross a CP boundary solely ties to the presence of a movement-inducing probe on C, not to the quality of this probe or the movement chain it invokes. Note that I do assume that there is a default distribution of probes and [A] probes are not randomly distributed along the syntactic spine; usually, they occur on heads below C. I assume that, via the formation of a composite probe, [A] probes can, exceptionally, end up on phasal heads and thereby induce long-distance A-movement.

5.6 The theoretical A'/A signature

This section shows that A'/A properties in composite derivations are distributed systematically across languages and become predictable as soon as one has disentangled which property ties to which syntactic factor (the movement chain, the probing head, the location of the probe). The different combinatorial possibilities of these three factors render the language- or construction-specific A'/A signature. In the next section, 5.7, I show how different languages and configurations empirically display various possible A'/A signatures, and how all of these can be predicted under a composite probe analysis.

So far I argued that composite A'/A derivations do not display a random mix of A'/A properties but that different properties of the A'/A distinction tie to three

¹⁵Note that for Hyperraising as well as long-distance A-movement in Dinka, there exist alternative analyses in terms of phase-unlocking: the whole CP is agreed with and thereby becomes permeable for A-movement out of it. I discuss phase-unlocking accounts in chapter 6 for Hyperraising and in chapter 8 for Dinka.

different syntactic factors: the movement chain, the probing head and the location of the probe. This means that only a subset of the classical A'/A distinguishing properties truly tracks the kind of movement an element underwent. Other properties are epiphenomenally correlated with the A'/A distinction but are not directly related to the movement chain. This becomes visible only when comparatively investigating composite A'/A derivations and comparing them among each other, as well as contrasting them with bare A or A' derivations.

Putting together the possible combinations of movement chains and probing heads, this renders four possible combinations: i) an [A'/A] probe triggering A-movement, ii) an [A'/A] probe triggering A'-movement, iii) an [A] probe triggering A-movement and iv) an [A'] probe triggering A'-movement. These four combine with the location of the probe: if a probe is located on C, it allows movement to cross CP. The options (i.e. the possible A'/A signatures) are summarized in table 5.12. Table 5.13 lists in which languages/ constructions (that are discussed in this thesis) we find them.

	<i>probe</i>	<i>mvt type</i>	<i>feed case</i>	<i>WCO</i>	<i>anaph. bind.</i>	<i>PG</i>	<i>feed A-mvt</i>	<i>re-con-str.</i>	<i>info-struct. effect</i>	<i>φ-goal</i>	<i>φ-Agr.</i>	<i>minimal</i>	<i>can cross CP</i>
i	A'	A'	×	✓	×	✓	×	✓	✓	×	×	A'	✓
ii	A'/A	A'	×	✓	×	✓?	×	✓	✓	✓	✓	A'/A	varies
iii	A	A	✓	×	✓	×	✓	×	×	✓	✓	A	×
iv	A'/A	A	✓	×	✓	×	✓	×	✓	✓	✓	A'/A	varies
<i>Movement type</i>									<i>Probe type</i>				<i>on C</i>

TABLE 5.12: Attested options for A', A and A'/A derivations

i)	English A'-movement (wh, top, foc, rel)	
ii)	Long-distance agreement	(chap. 6)
iii)	English A-movement (passives, subject raising)	
iv)	Balinese, Malagasy promotion to pivot	(chap. 7)
	Dinka extraction	(chap. 8)
	Hyperraising to subject/object	(chap. 6)
	Mandarin BEI passives & low topics/foci	(chap. 8)
	Khanty passives	(chap. 8)

TABLE 5.13: The A'/A distinction cross-linguistically

Note that this depicts the optimal picture of the A'/A signature: sometimes, not all properties are testable (e.g. some languages do not exhibit ϕ -agreement, do not show case-marking, do not allow parasitic gaps at all, or alike). Hence, a language under investigation sometimes only exhibit a subset of the A'/A signature properties and certain values/properties may absent. Further, note that bare A'- or A-constructions might come with independent, additional, language-specific restrictions; for example, there seem to be instances of bare A'-constructions restricted to the closest nominal (e.g. A'-extraction restricted to the subject (Keenan and Comrie, 1977; Aldridge, 2004; Branen and Erlewine, 2020; Coon, Baier, and Levin, 2021). I do not discuss them in the current A'/A signature but leave open to future research how to include them in the theory proposed here.

The A'/A signature predicts that certain properties will always bundle together in their values whereas others are more lenient to variation; all properties tying to the movement chain will take one value in a given configuration whilst the properties tracking the probing head will bundle together but may diverge from the movement chain.

In the remainder of this thesis, I investigate composite configurations from various languages, showing that their mixtures of A'- and A-properties depict exactly what we expect: different expected A'/A signatures. I draw on data from promotion to pivot in Dinka, Balinese and Malagasy, Mandarin Chinese BEI passives and low topics/foci, Khanty passives, Hyperraising to object (HyRtO) in Romanian and Turkish, Hyperraising to subject (HyRtS) in Brazilian Portuguese, Cantonese, Mongolian, Nez Perce, Romanian, and Turkish as well as long-distance agreement (LDA) in Innu-Aimûn, Passamaquoddy and Tsez. The following section gives an overview of the empirical A'/A signatures we find in these configurations; detailed analyses and data are presented in chapter 6 for Hyperraising and long-distance agreement, in chapter 7 for Balinese and Malagasy and in chapter 8 for Dinka, Mandarin Chinese and Khanty.

5.7 The empirical A'/A signature

This section empirically substantiates the theoretical claims made so far by describing cross-linguistically attested A'/A signatures. A construction's A'/A signature refers to its specific mixture of A'/A properties, determined (and constrained) by the three factors i) movement chain, ii) probing head and iii) probe location, summarized in table 5.14.

feeds case	WCO/ anaph. bind.	PG	feeds further A-mvt	(re- con- str.)	info- struct. effects	restr. to DP/ ϕ - goal	feeds ϕ - agree	mini- mality	can cross CP
 <i>movement type</i> <i>A' vs. A</i>					 <i>probing head</i> <i>[A], [A'] or [A'/A]</i>			 <i>probe location</i>	

TABLE 5.14: The A'/A signature

The A'/A signature allows us to predict both the behavior of bare A- and A'-configurations (such as English raising to subject or topicalization/wh-extraction) as well as the patterns of mixed A'/A configurations. This enables us to understand and describe composite constructions in a more systematic way. Further, it allows us to retain the notion of A'- and A-movement in composite configurations. I first discuss "classical" A'- and A-movement in English and how they only depict two instances of a possible A'/A signature, see section 5.7.1. Then, I proceed to A'/A signatures involving composite probes: section 5.7.2 investigates Dinka, Balinese and Malagasy promotion to pivot, involving an [A'/A] probe on Voice and C, triggering A-movement. Section 5.7.3 examines Mandarin Chinese BEI passives and low topics/foci, both of which exhibit [A'/A] probes below C (on Voice), which trigger A-movement. A similar pattern is found in Khanty passives, discussed in section 5.7.4. Next, section 5.7.5 presents [A'/A] probes on C triggering A-movement, as found in Hyperraising configurations. Last, section 5.7.6 investigates [A'/A] probes on C that invoke A'-movement, as found in long-distance agreement. Table 5.15

summarizes the data. The questionmarks indicate that I do not have data for the relevant property, *n/a* indicates that the property cannot be tested in the specific language or construction, for independent reasons (e.g. Mandarin Chinese does not exhibit overt ϕ -agreement, thus we cannot say anything about ϕ -agreement there).

	1	2	3	4	5	6
	English A'	English A	Dinka, Mala- gasy, Bali- nese	Manda- rin, Khanty	HRtS/ HRtO	LDA
	section 5.7.1	section 5.7.1	section 5.7.2	section 5.7.3, 5.7.4	section 5.7.5	section 5.7.6
			chapter 7, 8	chapter 8	chapter 6	chapter 6
i) <i>obviates WCO</i>	X	✓	✓	✓	✓	X
i) <i>can bind anaphor</i>	X	✓	✓	✓	✓	?
i) <i>feeds A-mvt</i>	X	✓	✓	✓	✓	X
i) <i>feeds case</i>	X	✓	✓	✓	✓	X
i) <i>licenses PG</i>	✓	X	✓?	?	?	?
i) <i>reconstruction</i>	✓	X	✓/X	X	X	✓
↪ <i>mvt is</i>	A'	A	A	A	A	A'
ii) <i>minimal</i>	A'	A	A'/A	A'/A	A'/A	A'/A
ii) <i>feeds ϕ-agr</i>	X	✓	✓	✓	✓	✓
ii) <i>info-struct.</i>	✓	X	✓	✓	✓	✓
ii) <i>restr. to ϕ-goal</i>	X	✓	✓	✓	✓	✓
↪ <i>probe is</i>	[A']	[A]	[A'/A]	[A'/A]	[A'/A]	[A'/A]
iii) <i>can cross CP</i>	✓	X	✓	X	✓	✓
↪ <i>location of probing head</i>	C	T	C+Voice	Voice	C	C

TABLE 5.15: The empirical A'/A signature

5.7.1 The bare case: English

Before we start with mixed A'/A configurations, I would like to demonstrate how the A'/A signature makes the right predictions not just for composite probing but also for simple probing: e.g. pure [A] and [A'] probes, as English exhibits.

English A'-extraction (e.g. topicalization or wh-movement) is the result of a bare [A'] probe on C, triggering an A'-movement chain. This is reflected in the properties tying to the probing head, in the properties tying to the movement chain as well as in the possibility for A'-movement to leave a CP clause. I demonstrate English A'-extraction mostly based on topicalization, but any other kind of A'-movement would work just as well.

case	WCO	anaph. bind.	PG	feeds A-mvt	recon- str.	info- struct. effects	DP/ φ- goal	feeds φ- agree	Mini- mality	can cross CP
×	✓	×	✓	×	✓	✓	×	×	A'	✓
$\underbrace{\hspace{10em}}$ <i>movement = A'</i>						$\underbrace{\hspace{10em}}$ <i>probe = [A']</i>				[A'] <i>on</i> <i>Voice</i> + C

TABLE 5.16: English A'-movement

(23) **Movement chain: A'**

- a. Induces WCO (van Urk, 2015: 44)
i) **Every other girl*_i, *Alex claims her*_i *mother likes t*.
- b. Cannot bind anaphor from landing site (van Urk, 2015: 45)
i) **Sam*_i, *pictures of himself*_i *prove t had a moustache once*.
- c. Cannot feed subsequent A-movement (Keine, 2013: 1)
i) **Who was believed went to the party?*
- d. Cannot feed case (keeps the case assigned in its base-position)
i) *Her!* **She*, *I know David likes t*.
- e. Licenses parasitic gaps (van Urk, 2015: 46)
i) *That book*, *I picked up t yesterday [only to throw __ away later]*.
- f. Reconstructs for principle C (Richards, 2014: 168)
i) **Which argument that John*_i *is a genius did he*_i *believe t?*

(24) **Probing head: [A']**

- a. A'-Minimality (can skip a φ-goal) (J. Bobaljik, p.c.)
i) *These cookies*, *I know David loves t*.
- b. Does not feed φ-agreement
i) *These cookies*.PL, *David loves*.SG/**love*.PL *t*.
- c. Information-structural effects (e.g. contrastive topic) (J. Bobaljik, p.c.)
i) *Well, HER_{CT}*, *I know David likes t*.
- d. No restriction to φ-goals (J. Bobaljik, p.c.)
i) *For entertainment*, *they boys roll rocks t*.

(25) **Probing head is located on C**

- a. Movement can cross CP boundary (J. Bobaljik, p.c.)
i) *These cookies*, *Martha said [CP David loves t]*.

Contrary to that, English A-movement (like passivization or raising to subject) is triggered by a pure [A] probe, thus exhibits the exact opposed values to A'-movement. The [A] probe triggers A-movement, and is not located on C but on T, thereby prohibiting movement to cross a CP boundary.¹⁶

¹⁶English exhibits all properties of an [A] probe with the exception of "restriction to nominals/φ-goals" in certain cases: locative inversion like (i) where a PP undergoes A-movement. I do not give an analysis of why locative inversion is exempt from the restriction to nominals.

case	WCO	anaph. bind.	PG	feeds A-mvt	recon-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	can cross CP
✓	×	✓	×	✓	×	×	✓	✓	A	×
movement = A						probe = [A]				[A] on T

TABLE 5.17: English A-movement

(26) **Movement chain: A**

- a. Obviates WCO (van Urk, 2015: 38)
i) *Every girl_i seemed to her_i friends t to be the smartest.*
- b. Creates new antecedents for anaphor binding (van Urk, 2015: 44)
i) *He_i seemed to himself_i t to be getting sick.*
- c. Can feed subsequent A-movement (J. Bobaljik, p.c.)
i) *The bike seems t to have been repaired t.*
- d. Feeds case (receives case in its landing site)
i) *Shel*Her was accompanied t by her mother.*
- e. Does not license parasitic gaps (van Urk, 2015: 46)
i) **Every book was read t [after buying __].*
- f. Does not reconstruct for principle C (Richards, 2014: 168)
i) *[Every argument that John_i is a genius] seems to him_i t to be flawless.*

(27) **Probing head: [A]**

- a. A-minimality (cannot skip a ϕ -goal) (adapted from Grishin, 2023: 281)
i) **The bag seems Luna has stolen t.*
- b. Feeds ϕ -agreement
i) *Tom's friends seem.PL/*seems.SG t to be cool.*
- c. No obligatory information-structural effects involved¹⁷
(e.g. no definiteness) (adapted from Fox and Nissenbaum, 2004: 475)
i) *Someone from NY seems to have won the marathon.*
- d. Restriction to ϕ -goals (J. Bobaljik, p.c.)
i) **For entertainment were/was rolled rocks.*

(28) **Probing head is located below C**

- a. Movement cannot cross CP boundary (Richards, 2014: 168)
i) **John seems [CP (that) t will win].*

The English A'/A signature is the traditional A'/A distinction. Many languages other than English exhibit the same A'/A signature; potentially because bare [A']

(i) *Under the bed is a good place to hide.*

¹⁷Note that passivization usually requires the DP to be specific as it escapes existential closure of VP.

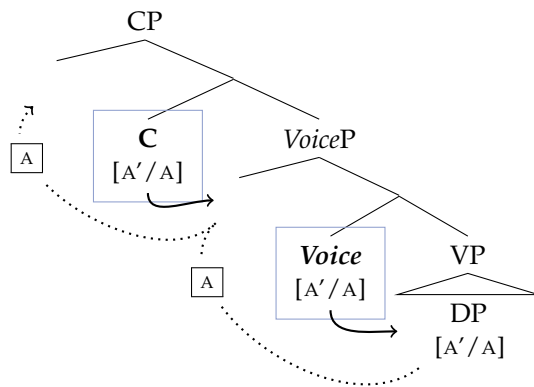
and [A] probes are more economical than composite probes (see also chapter 4, section 4.11).¹⁸ Let us now take a look beyond English to such languages and configurations where the A'/A distinction is not as clear-cut. As I have argued in the course of this chapter, these languages do by no means exhibit anything-goes patterns. They follow a very systematic mixture of A'/A properties, that might differ from English but is definitely not random, which becomes visible when disentangling what property ties to what syntactic factor. As soon as we disentangled what property ties to what part of syntax, the A'/A distinction becomes evident again, even in composite configurations.

5.7.2 Dinka, Malagasy, Balinese promotion to pivot

The Nilotic language Dinka Bor, as well as the two Austronesian languages Malagasy and Balinese behave similar in many respects: first, they all exhibit a voice system, highlighting one argument of the clause more salient than the others, referred to as *pivot*. The pivot is cross-referenced by specific verbal morphology, tracking (roughly) the thematic role of the pivot: if an agent is promoted to pivot, the verb occurs in AV (agent voice) form, if an object is promoted to pivot, it exhibits OV (object voice)/PV (patient voice) form and if an oblique is made pivot, the verb surfaces as CV (circumstantial voice). At the same time, the pivot itself is moved to clause-initial (or clause-final) position; the voice marking combined with pivot movement is a process I refer to as *promotion to pivot*. The details of these languages, their voice-marking systems and the fine-grained differences between them will be discussed in chapter 7 and chapter 8. For now, it suffices to assume that promotion to pivot is movement to CP, triggered by a composite [A'/A] head (van Urk, 2015; Erlewine, Levin, and van Urk, 2019), mediated by a composite [A'/A] Voice head. Note that an exact A'/A analysis so far mainly exists for Dinka (van Urk, 2015); in chapter 7, I extend this analysis to Balinese and Malagasy (based on Erlewine, Levin, and van Urk, 2019 and Lohninger and Katochoritis, to appear). Further, all forms of A'-extraction (relativization, wh-movement and topicalization) exhibit the same mixture of A'/A properties as promotion to pivot in a declarative sentence does. I use "promotion to pivot" as an umbrella term for this section, however, the A'/A signature investigated here extends to all extraction patterns (at least in Dinka, the database for Balinese and Malagasy is more scarce). Structure (29) depicts the distribution of [A'/A] probes in the three languages.

¹⁸English exhibits one apparent case of mixed A'/A movement, *tough*-movement, whose properties I will discuss in chapter 7. There exists a composite probe analysis for *tough*-movement in English (Longenbaugh, 2017) which I shortly discuss in chapter 8.

(29) [A'/A] in Dinka, Balinese, Malagasy



I propose that promotion to pivot is an A'/A configuration that fuses ϕ -induced A-movement with a form of topicalization, terminating in a CP-associated specifier. For the Austronesian languages, I argue (in chapter 7) that [A'/A] stems from an ongoing topic-to-subject lowering process, causing C to be both an A- as well as an A'-licensing position. Thereby, there is only one position which hosts both topics and subjects, namely SpecCP; all movement (be it promotion to pivot, topicalization or wh-extraction) competes for this single position. In Dinka, the [A'/A] probe on C and Voice might be more parametric of nature, see chapter 8 for a discussion. Promotion to pivot in Dinka, Balinese and Malagasy is triggered by a composite [A'/A] probe (on C and Voice), invoking A-movement. The A'/A signature of promotion to pivot configurations thereby involves A-movement properties (in terms of WCO, BIM, case, parasitic gaps and reconstruction) combined with properties indicating a composite [A'/A] probe (A'/A minimality, ϕ -agreement, information-structural effects, restriction to DPs). Movement triggered by such a head can cross the CP boundary, thus [A'/A] is located on a C head. I will now only briefly sketch the observed properties without giving all details for each language. For an in-depth discussion and analysis, I refer to chapter 7 (Balinese and Malagasy) and 8 (Dinka). The A'/A signature is summarized in table 5.18.

case	WCO	anaph. bind.	PG	feeds A-mvt	reconstr.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	can cross CP
✓	×	✓	×	✓	✓/×	✓	✓	✓	A'/A	✓
movement = A						probe = [A'/A]				[A'/A] on Voice + C

TABLE 5.18: Dinka, Balinese, Malagasy pivots

• Movement is of type A

Promotion to pivot obviates weak crossover: this is evident from Balinese (30a), where a quantifier object (*every child*) is promoted to pivot and can, from its landing site, bind an agent variable (*his father*), thereby does not induce WCO. (30b) is base-line counterpart (in which the object occurs in its base-position) where co-indexation

is not possible.¹⁹ The same is true for Malagasy and Dinka.

(30) *Balinese* (own elicitation)

- a. *Sabilang anak cenik_i ø-alih bapa-ne_{i/j}*
 Every person small OV-search father-POSS
 'Every child_i is searched for by his_{i/j} father.'
 b. *Bapa-ne_{*i/j} ngalih sabilang anak cenik_i*
 father-POSS AV.search every person small
 'His_{*i/j} father searches for every child_i.'

Promotion to pivot creates new antecedents for anaphor binding: this is visible in Dinka (31) where the pivot *Bol* originates below the subject *the story about himself*. From its landing-site, *Bol* is able to bind the reflexive within the subject phrase (*himself*).

- (31) *Bòl_i à-ḥi [àkékòl-tí è rət-dè_i] t piḥòlìc*
Bol 3S-PRF.OV [story-that P self-SG.3SG] *t* critivize.NF
 'Bol, that story about himself has criticized.'

Dinka new antecedents for anaphor binding (van Urk, 2015: 111)

Promotion to pivot feeds case: in Dinka (marking case by tone), the promoted element receives unmarked case, irrespective of whether it has base-generated as external or internal argument. In (32a), the external argument has been promoted to pivot, and receives unmarked case (glossed as ABS; note that this is not a statement about Dinka alignment). In (32b), the internal argument *food* is promoted to pivot and thereby receives unmarked case. The same is true for Malagasy. Balinese does not express morphological case, but, as will be shown in chapter 7, promotion to pivot has reflexes on licensing of the non-pivot agent, thus seems to interact with nominal licensing.

(32) *Dinka* (van Urk, 2015: 105; glosses modified for clarity)

- a. *Àyén à-cé cuḥin câam nè pǎal*
Ayen.ABS 3S-PRF.AV food eat.NF P knife
 'Ayen has eaten food with a knife.'
 b. *Cuḥin à-cḥi Àyén t câam nè pǎal*
food.ABS 3S-PRF.OV Ayen.GEN *t* eat.NF P knife
 'Food, Ayen has eaten with a knife.'

Promotion to pivot feeds further A-movement: promotion to pivot can occur long-distance without losing its A-quality. For example, Dinka long-distance movement still obviates WCO, see (33). The embedded object (*every man*) has moved out of the embedded clause to the matrix pivot position and from there can bind a matrix agent variable (*his wife*). Assuming that *every man* has moved successive cyclically through all VoicePs and CPs on its way (van Urk and Richards, 2015), this shows that initial promotion to pivot (in the embedded clause) can feed further promotion to pivot (in the matrix clause). Since the second movement step shows A-properties, the first one needs to have been A-movement too (given the BIM).²⁰ The A'/A quality of long-distance movement in Balinese and Malagasy is, unfortunately, less clear,

¹⁹ Assuming there is no QR in these languages.

²⁰ van Urk and Richards, 2015 suggest that the whole embedded CP is moved to SpecVoiceP and only then the embedded pivot is moved further up. In either way, the embedded pivot needs to be located at embedded SpecCP to leave the embedded clause and then move to matrix CP via A-movement.

see chapter 7 for discussion.

- (33) *Mòc ɛbɛ_i à-yíí tiéɛŋ-dè_i luêeel [ɛ t thét]*
man every 3S-HAB.OV woman-SG.3SG say.NF [C t cook.AV]
 'Every man_i, his_i wife says is cooking.' *Dinka* (van Urk, 2015: 110)

Parasitic gaps are not licensed by promotion to pivot. In Malagasy (34), the matrix object *bread* is promoted to pivot. It does not license a parasitic gap in an adjunct clause. Unfortunately, there is no data on parasitic gaps in Balinese and Dinka.

- (34) **Nohanin' ny zaza ny mofo [[] rehefa nandidy __ tamin' ny antsy]*
 PST.PV.eat DET child **DET bread** [[] after PST.AV.cut __ PST.with DET knife]
ny rainy]
 DET father.3POSS]
 Int.: 'The bread was eaten by the children after their father cut (it) with the knife.'
Malagasy (own elicitation)

Lack of reconstruction for principle C: Most instances of promotion to pivot lack reconstruction effects, i.e. the pivot can be interpreted in its landing site for principle C (keep in mind that both A'- and A-movement can, in principle, reconstruct, but only A-movement allows to lack reconstruction effects). In Malagasy, promotion to pivot bleeds reconstruction for principle C: in the PV configuration in (35a), an object R-expression (*Rakoto's child*) is promoted to pivot, thereby salvages an underlying principle C violation—the configuration is grammatical. If the pivot would reconstruct into its base position, it would be interpreted below the pronoun (*he*). We would then expect co-indexation to be ungrammatical, constituting a principle C violation (as is the case in the parallel AV configuration in (35b)). Given that (35a) is grammatical, we can conclude that the pivot (*Rakoto's child*) can be LF interpreted in its landing-site, thus does not reconstruct. This indicates that the pivot has been A-moved. The same is true for in Dinka.²¹

- (35) *Malagasy* (Paul, 2002: 112)
- a. *Notambazany_i ariary folo ny zana-dRakoto_i*
 PST.PV.hire.GEN.3 ariary ten **DET child.GEN.Rakoto**
 'Rakoto_i's child was hired by him_i for 10 ariary.'
 - b. **Nanamby ny zana-dRakoto_i ariary folo izy_i*
 PST.AV.hire DET child.GEN.Rakoto ariary ten **3(NOM)**
 Int.: 'He_i hired Rakoto_i's child for 10 ariary.'

All of the properties listed so far indicate that promotion to pivot is an A-movement chain. The mixed properties of promotion to pivot in Balinese, Malagasy and Dinka tie to the probing head, being [A'/A], thereby requiring the configuration to show information-structural effects, exhibit A'/A minimality (i.e. intervening DPs can be skipped/ crossed), whilst still being restricted to ϕ -goals and triggering ϕ -agreement at the landing site.

•Probe is [A'/A]

²¹Note that Balinese promotion to pivot appears to reconstructs for principle C; the details are discussed in chapter 7.

The pivot is information-structurally marked. In all three languages, the pivot is reported to be an information-structurally salient element. In the Austronesian languages, it must receive a definite interpretation (shown in (36) for Balinese); in Dinka, the pivot serves as the topic of the conversation, shown by the infelicity of using it as a response to *What's new?*, see (37).

- (36) *Balinese definiteness restriction* (Patrianto and Chen, 2023a: 12)
- a. **(Ada) anak ng-aukin Rani*
(EXST) person AV-call Rani
 '(There was) someone who called Rani'
- b. *Murid*(-e) ba orin wake tuni semengan*
student(-DEF) ASP OV.inform 2SG PST morning
 'The/*a student was informed by you this morning.'
- (37) *Dinka; in response to the question "What is new?"* (van Urk, 2015: 95)
- a. *Àyén a-cé ɰḁḁḁ ɰḁḁḁ*
Ayen 3S-PRF.AV house buy.NF
 'Ayen bought a house.'
- b. *# ɰḁḁḁ a-cíi Àyén ɰḁḁḁ*
house 3S-PRF.OV Ayen.GEN buy.NF
 # 'A house, Ayen bought.'

Pivots must be ϕ -elements; PPs cannot become pivots. This is visible from Balinese (38) as well as from Dinka (39a). When promoted to pivot, Dinka forces a PP to become nominalized: in (39a), *knife* is promoted to pivot as a pure DP. As long as it is not the pivot, as in (39b), it is expressed as a PP (*with a knife*). It loses its preposition when becoming the pivot, thus promotion to pivot is restricted to DPs.²²

- (38) **Ka umah-ne ø-kirim sayae surate*
to house.DEF OV-send 1SG letter
 Int.: 'To the house was sent a letter.' *Balinese* (Patrianto and Chen, 2023a: 14)
- (39) *Dinka* (van Urk, 2015: 105)
- a. *Pǎal à-bénè Àyén cuḁḁin câam*
knife 3S-PRF.OBLV Ayen.GEN food eat.NF
 'With a knife, Ayen will eat food.'
- b. *Àyén à-é cuḁḁin câam nè pǎal*
Ayen 3S-PRF.AV food eat.NF p knife
 'Ayen has eaten food with a knife.'

Promotion to pivot triggers ϕ -agreement: in its landing-site, the pivot agrees with the finite verb, shown in Dinka (40) where the pivot triggers ϕ -agreement on the auxiliary (opposed to Dinka, Balinese and Malagasy do not express morphological ϕ -agreement, thus the criterion is not applicable).

- (40) *Dinka* (van Urk, 2015: 103)
- a. *Yḁḁin ø-cíi môc tḁḁḁ*
you 2-PRF.OV man.GEN see.NF
 'You, the man has seen.'
- b. *Miir à-càa tḁḁḁ*
giraffe 3S-PRF.1SG see.NF

²²van Urk, 2015 proposes that the preposition is incorporated into C when a PP is supposed to become the pivot; see chapter 8 for his exact account.

'A giraffe, I have seen.'

Promotion to pivot is not sensitive to intervening DPs. Given the the fact that VoiceP phasality might obscure minimality (see chapter 4, section 4.9), this is best visible in ditransitives. In Balinese (41), the theme *money* can be promoted to pivot across the experiencer (*Nyoman*). Similarly, in Dinka long-distance extraction like (42), an intervening DP (*Ayen*) can be skipped when promoting a deeper embedded element to pivot.²³

- (41) *Pipis baang tiang Nyoman t*
money OV.give 1SG *Nyoman t*
 'The money was given to Nyoman by me.' *Balinese* (Arka, 2003: 25)
- (42) *Cuñin à-yàa tàak [kè cɛɛm Áyèn t]*
food 3S-HAB.1SG think-NF [C eat.OV *Ayen.GEN t*]
 'The food, I think Ayen is eating.' *Dinka* (van Urk, 2015: 94)

•Location of probe: on C

Last, as already shown above, promotion to pivot can proceed successive-cyclically across a finite CP-boundary. This means the [A'/A] probe is located at the phase edge (C), enabling long-distance A-movement. This is visible in Dinka (42) above, as well as in Malagasy (43) below where the embedded pivot *woman* is long-distance promoted to become the pivot of the matrix verb (*think*).²⁴

- (43) *Heverin-dRabe [fa mandidy ny mofo amin' ny antsy t] ny vehivavy*
 OV.think-Rabe.GEN [C AV.cut DET bread with DET knife t] DET **woman**
 'The woman, Rabe thinks (she) is cutting the bread with the knife.'
Malagasy (own elicitation; E. Potsdam, p.c.)

From this short discussion, we already see how the composite A'/A configurations in Dinka, Balinese and Malagasy exhibit an A'/A signature predicted by my analysis: the properties tracking the kind of movement (A) are consistent in their values (obviating WCO, feeding case, feeding further A-movement, not licensing PGs) and so are the properties tracking the type of probing head (A'/A) (information-structural effects, restriction to nominals/ ϕ -goals, feeding ϕ -agreement and A'/A minimality). The possibility to cross a CP phase boundary follows if the [A'/A] probe is located on C. The mixed A'/A behavior of these languages is thus highly systematic and strongly predictable as soon as it is not viewed under the coarse lens of the English A'/A distinction but under the finer-grained lens of a three-folded interplay between the movement chain, the probing head and the location of the probe.

5.7.3 Mandarin Chinese passives and low foci/topics

Mandarin Chinese exhibits mixed A'/A derivations in BEI passives (44a) and low topic/focus (44b) derivations (Kuo, 2009; Chen, 2023).

- (44) *Mandarin Chinese* (Chen, 2023: 36,101)

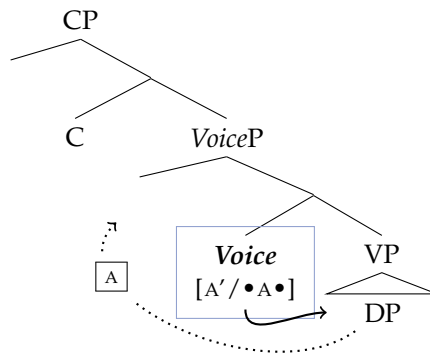
²³A'/A minimality in Dinka is a bit more complex than described here, and discussed at length in chapter 8.

²⁴Note that it is not clear whether these constructions are still A-movement, see chapter 7 for discussion. Note that even if long-distance extraction is not A-movement, an embedded pivot is still able to feed into matrix promotion to pivot, thus can leave the embedded clause.

- a. *Lisi bei (wo) male t*
Lisi BEI 1SG scold-PRF *t*
 'Lisi was scolded (by me).'
- b. *Lisi zhe-ben shu kan-wan-le t*
Lisi this-CL book read-be.finished.PRF *t*
 'Lisi, this book, finished reading (it).'

Chen, 2023 argues convincingly that both constructions are instances of movement and presents an A'/A analysis thereof. Her analysis is presented in more detail in chapter 7; in short, she suggests that both configurations are the result on an [A'/A] probe low in the clause (either on a Pass head above VoiceP or on a low TP head). For the moment being, I collide these two and simplify them as [A'/A] sitting on the Voice head; what is crucial is that they are located below C.

(45) [A'/A] distribution in Mandarin Chinese BEI passives and low topics/foci



In my classification, both Mandarin derivations (BEI passives and low topic/focus) involve a mixed [A'/A] probe on Voice (below C), that triggers A-movement, predicting the A'/A signature in table 5.19. Note that Chen, 2023 also contrasts Mandarin movement with Dinka, highlighting that the derivations resemble each other in many properties.

case	WCO	anaph. bind.	PG	feeds A-mvt	recon-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	can cross CP
n/a	×	✓	n/a	✓	×	✓	✓	n/a	A'/A	×
movement = A						probe = [A'/A]			[A'/A] below C	

TABLE 5.19: Mandarin Chinese BEI passive & low topic/focus

•Movement is of type A

No weak crossover. Both the DP promoted to subject in a BEI passive as well as low topics/foci do not induce obviate weak crossover effects. In (46), a BEI-moved quantifier *every person* can bind a variable it crossed (*his friend*) from its landing site.

- (46) *Mei-ge ren_i dou bei ta_i-de pengyou ma-guo t*
every-CL person DOU BEI 3SG-POSS friend scold-EXP *t*
 'Every person_i was once scolded by his_i friend.'
 (Chen, 2023: 63)

Creation of new antecedents for anaphor binding is possible in Mandarin BEI-passives as well as low topics/ foci, depicted in (47) for the low focus construction. The focalized object *this person* can bind the reflexive *his (own) friend* it has crossed on its movement path.

- (47) *Zhang (lian) zhe-ge ren_i (dou) bi ta-ziji_i-de pengyou ma-guo t*
Zhang (even) that person (DOU) force 3SG-self friend scold-EXP t
 'Zhang, (even) this person_i, once forced his_i (own) friend to scold (him_i).'
 (Chen, 2024: 2)

No reconstruction for principle C. Mandarin BEI-passives and low topics/foci do not reconstruct for principle C. This is shown in the BEI-passive construction (48), where an R-expression (*Lisi's friend*) moves from a position below a pronoun (*he*) to a higher landing-site. Co-indexation in the base-line is ungrammatical (as it would violate condition C) but becomes grammatical after movement.

- (48) *Lisi-de_i pengyou bei ta_i ma-guo t*
Lisi's friend BEI 3SG scold-EXP t
 'Lisi's friend was once scolded by him_i.'
 (Chen, 2023: 63)

Feeding case? Mandarin Chinese does not express overt morphological case, thus this criterion is difficult to test. What can be observed, though, is that a BEI-moved element can become the object of an ECM matrix verb. That is, in a bi-clausal construction like (49) with an ECM matrix verb like *allow*, *forbid*, *agree*, *object* and an embedded BEI-passive, the BEI-DP (*this product*) can become the object of ECM. If such constructions are in fact exceptional case marking, then the BEI-DP can receive case and therefore must have been A-moved. Note, however, that the existence of ECM in Mandarin Chinese is controversial; Chen, 2023 interprets (49) as true exceptional case marking, opposed to Li, 1990 who criticizes their ECM syntax.

- (49) *Fayuan yunxu/ jinzhi/ tongyi/ fandui [zhe-ge chanpin bei (zhe-ge*
court allow/ forbid/ agree/ object [this-CL product BEI (this-CL
gongsi) daliang shengchan t]
company) massively produce t]
 Lit. 'The court allowed/forbade/agreed/objected this product to be produced massively (by this company).'
 (Chen, 2023: 75)

BEI-movement feeds subsequent A-movement. Under Chen's analysis, BEI-passives consist of an initial movement step to SpecVoiceP (triggered by [A'/A] on Voice) and a second, pure A-movement step to SpecTP. If this analysis is correct, then movement triggered by [A'/A] feeds pure A-movement, thereby needs to be A-movement itself (otherwise it would violate the BIM). Further, an element promoted as BEI subject can feed into subsequent (hyper)raising. Mandarin Chinese, like Cantonese (Lee and Yip, 2024) exhibits (hyper)raising to subject, being A-movement to a higher clause (F. Chen, p.c.). A BEI-passivized DP (*Zhangsan*) can feed into hyper-raising, shown in (50); this indicates that the initial movement chain must have been A-movement.

- (50) *Zhangsan juede [t bei (Lisi) hui piping t]*
Zhangsan feel [t BEI (Lisi) will criticize t]
 Lit. 'Zhangsan felt/heard that (he) will be criticized (by Lisi).'
 (F. Chen, p.c.)

So far, the properties we observed show that the movement chain itself is an A-chain. The mixed properties of the derivation follow from the A'/A quality of the probing head.

•Probe is [A'/A]

Information-structural effects. Low foci/topics exhibit information structural effects. For low focalization, this is expressed by the focus marker *lian*, translated as *even*, (51a), for low topics by a definiteness/ aboutness-topic requirement, (51b).

- (51) *Information-structural effects of low topics/foci*
- a. Zhangsan **lian** Lisi dou bu xihuan *t*
 Zhangsan **even** Lisi DOU not like *t*
 'Zhangsan, even Lisi does not like *x* (= Zhangsan).' (Chen, 2023: 101)
- b. *Wo **yi-pian lunwen** keyi yingfu
 I **one-CL article** can assume
 Int.: 'One article, I can handle it.' (Kuo, 2009: 21)

For BEI passives, the situation is a bit more complex; the BEI subject is not clearly information-structurally marked, however, Chen, 2023 (following Huang, Li, and Li, 2009) argues that the A'-effects stem from a form of relativization and a [rel] feature involved in the process. I take [rel] to be the relevant [A'] feature involved in BEI passives; note that the morpheme BEI has been suggested to have grammaticalized from a relativizer into a passive marker (F. Chen, p.c.)

Restriction to nominals/ ϕ -goals: elements taking part in BEI-passivization as well as low topics/foci are restricted to nominals; a PP cannot serve as the subject of a BEI passive.²⁵

- (52) *Xuexiao-li bei (Lisi) *t* xie-le yi-feng xin
 school-in BEI (Lisi) *t* write-PRF once-CL letter
 Int.: 'In the school was written a letter (by Lisi).' (Chen, 2023: 98)

Similarly, a low topic/focus can not occur as a PP.

- (53) *Gerusien **gei** Sara meiyou song-le *t* zheben shu.
 Grissom **to** Sara not give-ASP *t* this-CL book
 Int.: 'Grissom did not give to Sara this book.' (Kuo, 2009: 240)

BEI passives and low topics/foci are not sensitive to intervening DPs. Take as an example a long-distance configuration, in which the [A'/A] probe on Voice can skip an intervening DP (or multiple of them) in search for a fully fitting goal. In the BEI passive in (54), the goal (*letter*) is moved across the intervening DPs *Wang* and *Zhang*:

²⁵Note, however, that a sort of locative inversion seems to be possible with BEI-passives as long as the locative is an applicative argument. The fact that *on the table* forms a single morpheme and can depict an argument might indicate that it has some sort of ϕ -layer on top and does not behave like a pure PP, as the one in (52). Note also that in the active counterpart of this sentence, the preposition *zai* (*at*) in the verb is grammatical whereas it is not when the desk becomes the BEI subject. This could be another indication that it loses a PP layer.

- (i) Zhuozhi-shang bei (wo) fang(*-zai)-le *t* yi-ben shu
 desk-on BEI (1SG) put(*be.at)-PRF *t* one-CL book
 Lit.: 'On the desk was put a book (by me).' (Chen, 2023: 98)

- (54) *Na-feng xin bei wo jiao Li qing Wang tuo Zhang ji-chu-le t*
that-CL letter BEI 1SG order Li ask Wang entrust Zhang send-out-PRF *t*
 Lit. 'That letter was ordered Li to ask Wang to entrust Zhang to send out
 *(by me).'

(Chen, 2023: 40)

A similar effect can be found in ditransitives where either one of the embedded objects can be extracted (see chapter 8 for more details).

• **Location of probe: Voice**

BEI passives and low topics/foci cannot cross finite CP boundaries. This is predicted if only VoiceP but not CP carries an [A'/A] probe.²⁶ Thereby, successive-cyclic movement across multiple reduced clauses that lack CP is grammatical, as in (55a). It becomes ungrammatical as soon as a CP layer intervenes, (55b). This is based on the idea that C in Mandarin carries only an [A'] probe, not an [A'/A] probe; thereby it could in principle attract movement of the A'/A goal to SpecCP; this movement step would, however, be an A'-chain. BIM rules out that the A'/A goal then moves further to matrix SpecVoiceP via A-movement. Thus, as soon as there is a CP between two respective A'/A Voice heads, successive-cyclic A-movement is prohibited (as it would have to involve an intermediate A'-step).²⁷

- (55) *Long-distance A-movement cannot cross CP* (Chen, 2023: 104)

- a. *Li, (lian) zhe-ben shu (dou) [VoiceP bi Zhang [VoiceP jiao Wang*
Li (even) this-CL book (DOU) [VoiceP force Zhang [VoiceP order Wang
[VoiceP kan-guo t]]
[VoiceP read-EXP t]]
 'Li, (even) this book, once forced Zhang to order Wang to read x (= book).'
- b. **Li, (lian) zhe-ben shu (dou) xiangxin [CP Zhang*
Li (even) this-CL book (DOU) believe [CP Zhang
kan-wan-le t]
read-be.finished-PRF t
 Int.: 'Li, (even) this book, believes that Zhang has finished reading x (= book).'

Last, we cannot tell whether **BEI-subjects and low topics/foci feed into ϕ -agreement**. Since Mandarin Chinese does not display morphological ϕ -agreement, this property cannot be tested. To conclude, Mandarin Chinese BEI-passives and low topics/foci show all hallmarks of an A-movement chain provoked by an [A'/A] probe on a head below C (following Chen, 2023, that is on Pass (right above Voice) or a low TP head).

5.7.4 Khanty passives

Similar to Mandarin BEI constructions are Khanty passives, which have been analyzed as involving an [A'/A] probe on Voice in Colley and Privoznov, 2020 (note that the authors originally locate the [A'/A] probe on T. Along the lines of Chen, 2023, I

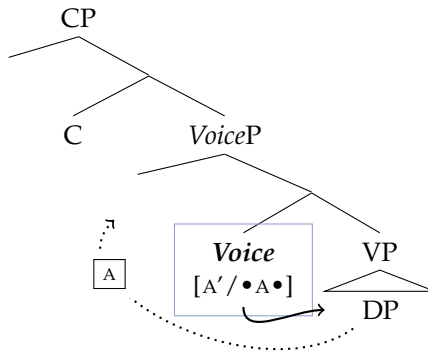
²⁶Note that I am simplifying Chen' 2023 analysis here; she suggests that in both cases, the [A'/A] probe is directly above VoiceP; for BEI passives in in PassP, for low foic/topics in a low TP projection. For the moment being, this is not relevant—what matters is that [A'/A] is below the phasal head C. I discuss Chen's analysis in more detail in chapter 8.

²⁷Note that Mandarin, like Cantonese, allows hyperraising under certain predicates. As predicted, in the context of hyperraising, the BEI subject can leave an embedded CP clause.

suggest that it is lower, on the passive Voice itself; see also chapter 8). An example for Khanty passivization is depicted in (56), the respective structure is given below.

- (56) *maw-λ-am maša-jen-ə nawr-εm-a mā-s-i-jət*
candy-PL-1SG Masha-2SG-LOC kid-1SG-DAT give-PST-PASS-3PL
 'My candy was given by (your) Masha to my kid.'
 (Colley and Privoznov, 2020: 112)

- (57) [A'/A] in Khanty passives



There is not as much data on Khanty passives as there is on the other constructions I have discussed to far, thus the discussion has some empirical gaps; however, the overall tendency of A'/A properties aligns with what is predicted by an A'/A signature analysis, shown in table 5.20.

case	WCO	anaph. bind.	PG	feeds A-mvt	recon-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	can cross CP
✓	×	n/a	n/a	n/a	×	✓	✓	✓	A'/A	?
$\underbrace{\hspace{10em}}$ <i>movement = A</i>						$\underbrace{\hspace{10em}}$ <i>probe = [A'/A]</i>				$[A'/A]$ <i>on</i> <i>Voice</i>

TABLE 5.20: Khanty passives

•Movement is of type A

No weak crossover The DP undergoing passivization does not induce weak crossover effects. In (58) the theme (*every girl*) is moved across the agent (*her mother*) and can bind it from its landing site.

- (58) *kaʒəŋ ɛwi_i aŋk-əλ-ən_i škola-ja t tθ-s-i*
every girl mother-3SG-LOC school-DAT t lead-PST-PASS.3SG
 'Every girl_i was taken to school by her_i mother.'
 (Colley and Privoznov, 2020: 4)

Passivization lacks reconstruction effects: A passivized DP does not need to reconstruct for interpretation, as is visible from variable binding reconstruction in (59). The variable *her daughter* was moved out of the scope of its binder (*every mother*) and can, in its landing site, no longer be bound.

- (59) *ew-əλ_{*i/j} kaʒəŋ aŋk-ən_i aʃkola-ja t tθ-s-i*
girl-3SG every mother school-DAT *t* lead-PST-PASS.3SG
 'Her_{*i/j} daughter was taken to school by every mother._i'
 (Colley and Privoznov, 2020: 4)

Feeds case. Khanty passivization feeds into morphological case-assignment. The promoted DP receives nominative case, shown in the contrast between (60a) and (60b). In the active example (60a), the recipient *kid* is marked as dative. As soon as it becomes the subject of the passive, in (60b), it receives nominative case (morphologically unmarked).

- (60) *Khanty case* (Colley and Privoznov, 2020: 2)
- a. *məŋ nawrɛm-ɛm-a maʊ mə-s-əʊ*
 we **kid-1SG-DAT** candy give-PST-1PL
 'We gave candy to my kid.'
- b. *nawrɛm-ət maʃa-jen-ən maʊ-ən mə-s-i-jət*
kid-PL Masha-2SG-LOC candy-LOC give-PST-PASS-3PL
 Lit.: 'Our kids were given by (your) Masha candy.'

• **Probe is [A'/A]**

Information-structural effects. Colley and Privoznov, 2020 argue that the passivized DP needs to be a topic; passive constructions are used as an answer to the question *What happened to X?* (when *X* is the subject). Further, the passivized DP cannot be focalized, as shown in (61a)–Colley and Privoznov, 2020 take this to be an argument for its topicality (as topicalization and focalization stand in complementary distribution to each other). Other constituents in a passive structure can be focalized, see (61b), thus focalization is not in general ruled out in this construction.

- (61) *Passive subject cannot be focalized* (Colley and Privoznov, 2020: 8)
- a. # *[Ar-en]_F up-en-ən ari-s-a*
song-2SG sister-2SG-LOC sing-PST-PASS.3SG
 # 'Your song was sung by your sister.'
- b. *Ar-en up-en-ən [muλχatλ]_F ari-s-a*
song-2SG sister-2SG-LOC yesterday sing-PST-PASS.3SG
 'Yesterday your song was sung by your sister.'

Restriction to nominals/ ϕ -goals: Passivization is restricted to nominals/ ϕ -goals: a directional phrase like *to school* cannot become a passive subject, see (62).

- (62) **Škola maʃa-jen-ə man-s-a*
school Masha-2SG-LOC go-PST-PASS.3SG
 Int.: The school was gone to by (your) Masha.'
 (Colley and Privoznov, 2020: 3)

Khanty passives are not sensitive to intervening DPs: A passivized DP can skip an intervening nominal; in (63), the direct object *candy* skips the indirect object *kid*.

- (63) *maʊ-λ-am maʃa-jen-ə nawr-ɛm-a t mə-s-i-jət*
candy-PL-1SG Masha-2SG-LOC **kid-1SG-DAT** *t* give-PST-PASS-3PL
 'My candy was given by (your) Masha to my kid.'
 (Colley and Privoznov, 2020: 112)

Khanty passives trigger ϕ -agreement: The verb agrees with the passivized DP, as can be seen from plural agreement in (63). Colley and Privoznov, 2020 do not mention whether passivization can proceed across a CP boundary; I assume that this is ungrammatical, but do not have data to justify this assumption.

5.7.5 Hyperraising to subject or object

Another instance of mixed A'/A dependencies is found in Hyperraising to subject and object in a variety of unrelated languages. An in-depth investigation and analysis is presented in chapter 6, this section is only a brief walk-through the relevant data. Hyperraising configurations are instances of A-movement across a finite clause boundary, such as the Brazilian Portuguese (64), and exhibit the properties listed in table 5.21 (minor differences across languages are possible, see the fine-grained typology in chapter 6). The languages under discussion are Brazilian Portuguese, Cantonese, Mongolian, Nez Perce, Romanian, and Turkish. For this section, in order to simplify the argumentation, mixed-and-matched data from all of them is used to demonstrate the relevant properties.

- (64) *Os meninos parecem* [_{CP} *que t fizeram a tarefa*]
 the boys seem.3.PL [_{CP} C *t* did.3.PL the homework]
 'The boys seem to have done their homework.'

Brazilian Portuguese (Nunes, 2009: 5)

Following Wurmbrand, 2019; Lohninger, Kovač, and Wurmbrand, 2022, I argue that Hyperraising involves an [A'/A] probe on embedded C, triggering A-movement of its goal to SpecCP (from where it can undergo subsequent A-movement to the matrix clause).²⁸

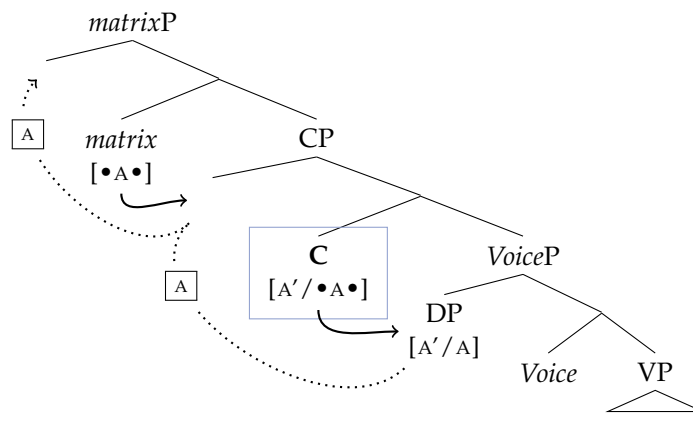
case	WCO	anaph. bind.	PG	feeds A-mvt	recon-str.	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	can cross CP
✓	×	✓	n/a	✓	×	✓	✓	✓	A'/A	✓
$\underbrace{\hspace{10em}}$ <i>movement = A</i>						$\underbrace{\hspace{10em}}$ <i>probe = [A'/A]</i>			$\underbrace{\hspace{10em}}$ <i>[A'/A] on C</i>	

TABLE 5.21: Hyperraising to subject/object

The [A'/A] probe on C, as I will discuss in section 4.11, is the result of fusing a predication phrase RP (merged between the matrix and embedded clause) with the embedded CP, leading to an [A'/A] probe on the fused head R+C. Note that hyperraising languages only exhibit an [A'/A] probe on this specific head, and not as a general inventory of their phasal heads (different to what we saw, for example, in Dinka, Balinese or Malagasy, where all C heads are merged with [A'/A]).

²⁸Note that in some cases of Hyperraising to object, the DP may also remain in SpecCP (as Şener, 2011 argues for Turkish). For the A'/A signature, it is irrelevant whether there is a subsequent A-movement step within the matrix clause. What is relevant is the first movement step to SpecCP. For the sake of simplicity, I refer to all operations as Hyperraising.

(65) [A'/A] in Hyperraising



•Movement is of type A

No weak crossover. Hyperraising configurations do not induce weak crossover effects, shown in Mongolian Hyperraising to object, (66a), where the hyperraised DP (*every girl*) moved from the embedded clause to the matrix clause, crossing a variable on its way (*her mother*), which it can bind from its landing-site. Note that the not-hyperraised version in (66b) does not allow co-indexation.

(66) Mongolian (Fong, 2019: 29)

- a. *Okhin бүр-iig_i öör-iin-kh n'_i eej [t ukhaan-tai*
girl every-ACC self-GEN-EPH POSS.3 mother [t intelligence-with
gej] khel-sen.
 C] say-PST
 'Her_i mother said that every girl_i is intelligent.'
- b. *Öör-iin-kh n' _{*i/j} eej [okhin бүр_i ukhaan-tai gej]*
self-GEN-EPH POSS.3 mother [girl every intelligence-with C]
khel-sen.
 say-PST
 'Her/His_{*i/j} mother said that every girl_i is intelligent.'

Hyperraising establishes new antecedents for anaphor binding, as is visible from Cantonese Hyperraising to subject (67). There, a hyperraised element (*Ming*) can bind a matrix anaphor from its landing-site.

- (67) *Aaming_i [Gangeoi keoizigei_i baan pangjau ge gongfaat] gamgok [*
Ming [according.to 3SG.SELF CL.PL friend MOD saying] feel.like [
waa t hai jat go seoijan]
 C t COP one CL bad.guy]
 'According to what his friends said, it is felt that Ming is a bad guy.'
 (Lit.: 'Ming, according to what himself's friends said, (I) feel like, is a bad guy.')

Cantonese (Lee and Yip, 2024: 24)

Hyperraising feeds case, as can be seen in Turkish Hyperraising to object: the hyperraised DP *you* receives matrix accusative case, even though it is the subject of

the embedded clause.²⁹ Note that the relevant DP *you* is depicted inside the embedded clause in (68); I follow Şener, 2011 who proposes that the DP moves to an A-position in SpecCP from where it is visible for all matrix operations. Thereby, it can partake in the matrix dependent case algorithm.

- (68) *Pelin* [*sen-i* *Timbaktu-ya* *git-ti-n* *diye*] *duy-muş*.
 Pelin-NOM [**you-ACC** *Timbaktu-DAT* *go-PST-2SG* *C*] *hear-PST*
 'Pelin heard that you went to Timbaktu.' *Turkish* (Şener, 2011: 3)

Hyperraising feeds A-movement. In Hyperraising configurations, I suggest that the relevant DP first moves to embedded SpecCP, attracted by [A'/A] on embedded C and from there on to a matrix subject or object position. The relevant movement step for this thesis is the one to embedded SpecCP, since this is the one triggered by the [A'/A] probe. Only if this movement step is A, it can feed further matrix A-movement. If it was A', a subsequent A-movement step would violate the BIM. Brazilian Portuguese shows that movement from the embedded SpecCP to the matrix subject position can be A-movement. The hyperraised DP *all boys* can be co-indexed with a matrix variable (*their fathers*), thereby obviating WCO. This indicates that the initial movement step (from within the embedded clause to SpecCP) must have been A-movement too.

- (69) *Todos os meninos_i parecem pros pais deles_i [que t são bons alunos].*
all the boys seem.PL to.the fathers of.them [*C t* are good students]
 'All boys_i seem to their fathers_i to be good students.'
Brazilian Portuguese (F. Kobayashi, p.c.)

Co-indexation between *all boys* and *their fathers* in the base-line order (without Hyperraising) is not possible.

- (70) *Parece pros pais deles_{*i/j} [que todos os meninos_i são bons alunos].*
 seem to fathers of.them [*C all the boys are good students*]
 'It seems to their_{*i/j} fathers that all the boys_i are good students.'
Brazilian Portuguese (F. Kobayashi, p.c.)

Hyperraising configurations usually lack reconstruction effects. In Mongolian and Brazilian Portuguese, for example, a hyperraised DP does not reconstruct for principle C, or, put differently, can fix an underlying condition C violation. The (a) examples are the base-line without Hyperraising where co-indexation between an embedded R-expression and a matrix pronoun is ungrammatical. In the (b) examples, the R-expression has hyperraised and co-indexation becomes possible. Thus, the hyperraised element does not reconstruct, indicating that it A-moved to the matrix clause.

- (71) *Brazilian Portuguese* (F. Kobayashi, p.c.)
- Parece pra ele_{*i/j} [que dois cachorros do Pedro_i correram].*
 seems to him [that two dogs of.the **Pedro** ran.PL]
 'It seems to him_{*i} that Pedro's_i two dogs ran away.'
 - Dois cachorros do Pedro_i parecem pra ele_i [que t correram].*
two dogs of.the Pedro seem.3PL to him [that *t* ran.3PL]
 'The two dogs of Pedro_i seem to him_i to have run away.'

²⁹I assume that the hyperraised DP first receives embedded nominative case which is then overwritten by matrix accusative case (see chapter 6).

- (72) *Mongolian* (Fong, 2019: 31)
- a. *Bi* [*Bat_i* *sain khün gej*] *tüün-d_{*i/j}* *khel-sen*
 1SG.NOM [*Bat.NOM* good person C] 3SG-DAT say-PST
 'I told her/him_{*i/j} that Bat_i is a good person.'
- b. *Bat-iin_i* *eej-iig* *bi* [*t sain khün gej*] *tüün-d_i* *khel-sen*
Bat-GEN mother-ACC 1SG.NOM [*t* good person C] 3SG-DAT say-PST
 'I told her/him_i that Bat's_i mother is a good person.'

All these properties show that Hyperraising (to subject or object) are instances of A-movement. However, they proceed across a CP-clause boundary and often involve information-structural effects. I argue that this tracks the composite [A'/A] probe involved in Hyperraising.

•Probing head: [A'/A]

Hyperraising configurations very often come with information-structural effects, such as a topic or definiteness requirement on the hyperraised DP. This is for example visible in Romanian, where the hyperraised DP cannot be an indefinite quantifier like *someone*:³⁰

- (73) **Am mirosit pe cineva* [*că t ne minte*].
 have.1 smelled DOM **someone** [C *t* 1PL.DAT lies]
 Int.: 'I/we suspected that someone was lying to us.'
Romanian (Alboiu and Hill, 2016: 276)

Hyperraising is restricted to nominals. A PP cannot undergo HyRtS, as shown in Brazilian Portuguese (74).

- (74) **Debaixo d-essas árvores parecem* [*que t é um bom lugar para fazer um*
under of-these trees seem-PL [C *t* is a good place to make a
piquenique].
 picnic]
 Int.: 'Under the trees seems to be a good place to have a picnic.'
Brazilian Portuguese (F. Kobayashi, p.c.)

Hyperraising is (not) sensitive to intervening DPs? So far I have argued that A'/A heads probe in an A'/A-minimal way, that is they ignore partial fits. In Hyperraising, this property tends to be obscured by the embedded VoiceP phase. Hyperraising configurations often seem to be restricted to the embedded subject, see (75). At first sight, this appears to be an A-minimality restriction, contradicting A'/A minimality.

- (75) **Am auzit-o pe Mioara* [*c-a invită Gelu t*].
 have.1SG heard-her DOM **Mioara** [C-has invited *Gelu t*]
 Int.: 'I heard from Mioara that Gelu invited her.' (own paraphrase)
Romanian (Alboiu and Hill, 2016: 268)

In chapter 4, I argued that what we observe here is not a lack of A'/A minimality but embedded VoiceP being a phase and thereby opaque for the [A'/A] probe on C. In Hyperraising configurations, only C carries an [A'/A] probe whereas Voice

³⁰Note that this argument is simplified to the sake of clarity here: there are various instances of Hyperraising which may lack information-structural effects. In chapter 6 I will ascribe these to instances of independent probing by the [A'] and [A] probe on C, whereby Hyperraising is mediated by a pure [A] probe in some cases.

does not. Unless a language allows an independent way of A-moving the object to SpecVoiceP (e.g. via A-scrambling), Hyperraising is restricted to the embedded subject. Mongolian possessor phrases and Nez Perce object A-scrambling show that this prediction is borne out: in the former, Hyperraising can target a possessed DP embedded underneath a dative possessor phrase, (76). If [A'/A] on C was sensitive to intervening DPs, this should be ungrammatical.³¹

- (76) *Odgerel shine baishin-g* [*Dulmaa-d t baigaa gej*] *khel-sen*.
 Odgerel new house-ACC [*Dulmaa-dat t COP.PRS C*] say-PST
 'Odgerel said that Dulmaa has a new house.' *Mongolian* (Fong, 2019: 10)

Similarly, in Nez Perce, an object can be A-scrambled out of VoiceP (to a preverbal position) and thereby become accessible to [A'/A] on C, (77).³²

- (77) *Nez Perce* (Deal, 2017a: 6)
- a. 'Aayat-onm *hi-nees-nek-se* [*watiisx mamay'as-na*
 woman-ERG 3.SBJ-O.PL-think-IPFV [1.day.away **children-ACC**
Angel-nim hi-naas-wapayata-ya].
 Angel-ERG 3.SBJ-O.PL-help-PERF]
 'The woman thinks Angel helped the children yesterday.'
- b. *'Taamsas-nim *hi-nees-nek-se* [*Angel-nim hi-naas-wapayata-ya*
 Taamsas-ERG 3.SBJ-O.PL-think-IPFV [Angel-ERG 3.SBJ-O.PL-help-PERF
mamay'as-na].
children-ACC]
 'Taamsas thinks Angel helped the children.'

Thus, I propose that [A'/A] in Hyperraising is, in principle, A'/A minimal, but this is only seldomly observable as most languages do not allow to A-move their subject out of VoiceP (in regular transitive clauses).

Hyperraising feeds ϕ -agreement. In a Hyperraising configuration, the hyper-raised DP ϕ -agrees both with the embedded verb as well as with the matrix verb, shown in Brazilian Portuguese Hyperraising to subject:

- (78) *Os meninos parecem* [*que t fizeram a tarefa*]
the boys seem.3.PL [C *t* did.3.PL the homework]
 'The boys seem to have done their homework.'
Brazilian Portuguese (Nunes, 2009: 5)

³¹Note that in these cases, Hyperraising of the possessor phrase, *Dulmaa*, is not grammatical. This could have different sources, about which neither Fong, 2019 nor I are conclusive; either the inability of ACC to overwrite DAT case or a restriction on left-branch extraction.

(i) **Odgerel Dulmaa-g* [*t shine baishin baigaa gej*] *khel-sen*
 Odgerel **Dulmaa-acc** [*t new house COP.PRS C*] say-PST
 Int.: 'Odgerel said that Dulmaa has a new house.' (Fong, 2019: 10)

³²Depending on the landing site of the scrambled object, this could still be an A-Minimality requirement; if the object scrambled higher than the subject, then we cannot say anything about the A-minimality restriction of [A'/A] on C, but only conclude that Hyperraising is not a subject restriction. Optimally, we had data where either the subject or the object could undergo Hyperraising after object scrambling. These data are not present and I suppose that this might be due to the fact that scrambling usually comes with some information-structural properties. That is, if an object is scrambled, then this might already be due to some topicality or alike. Thereby, the object is most likely the better fit for [A'/A] on C as soon as it is scrambled, whereas, if the subject is hyperraised, we probably do not find additional object scrambling.

Note that there is no agreement observable on the intermediate landing-site (embedded CP). I will discuss possible reasons for this in chapter 6.

•Location of probe: C

The [A'/A] probe sits on C, thereby enabling A-movement across a finite clause-boundary. As is observable from all examples above, Hyperraising proceeds from a full CP complement clause (including a fully inflected verb as well as a complementizer) whilst at the same time exhibiting properties of A-movement. This follows if we assume that the [A'/A] probe mediating Hyperraising is located on C, thereby enabling A-movement to proceed across a finite clause boundary. Crucially, in Hyperraising configurations, only C carries an [A'/A] probe whereas Voice does not. This is visible from apparent minimality restrictions, i.e. the lack of successive-cyclic A-movement through VoiceP. Where the [A'/A] probe on C comes from and why it is only present on embedded C is discussed in chapter 6.

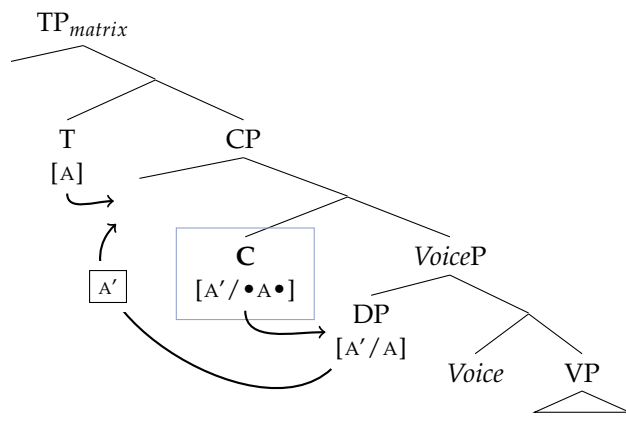
5.7.6 Long-distance Agreement

The last instance of A'/A configurations discussed in this thesis is long-distance agreement (LDA) in Tsez, Passamaquoddy and Innu-Aimûn. In LDA, a DP moves to the embedded SpecCP from where it is accessible to the matrix verb for ϕ -agreement. In chapter 6, I argue that both LDA and Hyperraising involve an [A'/A] probe on embedded C. They differ from each other in that LDA is an instance of A'-movement whereas Hyperraising is A-movement. Thereby, the properties tying to the type of probe are the same (information structural effects, restriction to DPs, feeding ϕ -agreement, A'/A minimality) but the properties tying to the movement chain exhibit the opposite values (not feeding case, not feeding subsequent A-movement, inducing WCO, reconstruction effects). LDA exhibits an [A'•/A] probe on embedded C, triggering A'-movement of a DP to SpecCP from where it is accessible to a matrix ϕ probe for agreement (see also Mursell, 2020; 2021). This is shown in Passamaquoddy (79), where the matrix verb *suspect* ϕ -agrees with a DP at the embedded CP edge (*child*). The respective syntactic structure is shown in (80).

- (79) *Mali 'piluwitaham-a-l [ø-nican-ol keq kisi= wapol-oluhke-ø]*
 Mary 3-suspect-3OBJ-OBV.SG [3-child-OBV.SG what PFV= wrong-do-3]
 'Mary suspects her child of wrongdoing.'

Passamaquoddy (Grishin, 2023: 153)

- (80) [A'/A] in long-distance agreement



LDA configurations exhibit the following A'/A signature:

case	WCO	anaph. bind.	PG	feeds A-mvt	recon- str.	info- struct. effects	DP/ Φ- goal	feeds Φ- agree	Mini- mality	can cross CP
×	✓	n/a	n/a	×	✓	✓	✓	✓	A'/A	✓
$\underbrace{\hspace{10em}}$ <i>movement = A'</i>						$\underbrace{\hspace{10em}}$ <i>probe = [A'/A]</i>				[A'/A] on C

TABLE 5.22: Long-distance agreement

•Movement chain: movement is of type A'

LDA exhibits weak crossover: it is widely argued that LDA involves A'-movement to SpecCP which may be overt or covert (Polinsky and Potsdam, 2001 for Tsez, Branigan and MacKenzie, 2002 for Innu-aimûn, Grishin, 2023 for Passamaquoddy). Bruening, 2001a shows that Passamaquoddy LDA induces WCO. In the base-line example (81a), co-indexation between a higher variable (*his mother*) and a lower quantifier (*everyone*) is ungrammatical, as expected. If the quantifier undergoes LDA, that is moves to the embedded SpecCP, crossing the variable, co-indexation remains ungrammatical, as shown in (81b). This indicates that the movement chain is of type A'.

- (81) *Passamaquoddy* (Bruening, 2001a: 23)
- a. *W-ikuwoss-ol_{*i/j} n-kisi-kat-a-ku-n psi=te wen_i*
3-mother-OBV 1-PERF-hide-APP-INV-N **all=EMPH someone**
 'His_{*i/j} mother hid everyone_i from me.'
- b. *N-kosiciy-a [psi=te wen-(il)_i tama w-ikuwoss-ol_{*i/j}*
 1-know-TA [**all=EMPH someone-(OBV)** where 3-mother-OBV
n-kisi-kat-a-ku-n t]
 1-PERF-hide-APP-INV-N *t*]
 Int.: 'I know (about everyone_i) where his_{*i/j} mother hid x from me.'

LDA does not feed case. The prediction of LDA involving A'-movement is that the LDA.DP keeps the case it received in its base-position. If movement to SpecCP was A-movement, we would assume that the moved DP would feed into the dependent case algorithm from its high landing site and thereby have repercussions on case assignment. If movement to SpecCP in LDA is A'-movement, we do not expect that the high landing site of the LDA.DP can alter its case. Both Passamaquoddy and Innu-aimûn lack overt case marking, so we cannot tell anything from LDA there. Tsez expresses overt case: it is an ergative language, marking the transitive subject with ERG and the transitive object with ABS. Thus, it has a form of dependent case algorithm that assigns ERG to the higher DP (the subject) and ABS to the lower one (the object) (note that Tsez is not a high absolutive language, thus there is no indication for the ABS object to move above the subject in general; Polinsky, 2016). In LDA constructions, the ABS object is attracted by [A'/A] on c and undergoes movement to SpecCP (from where it becomes visible for matrix agreement). When doing so, it keeps its absolutive case marking. If it was A-moved, we would expect it to feed into dependent case from its high landing site in CP. This would mean that the now higher object should alter its own case as well as the one of the subject it now c-commands; if the object landed in an A-position in CP, we would expect it to become

ERG marked there and the subject to be ABS marked (as it is the lower A-DP). This is not the case: the embedded object keeps ABS, even when becoming the subject of LDA (and thereby being moving to SpecCP), shown in example (82). The object *bread* undergoes LDA; this has no effect on case marking of the ERG subject (*boy*) or on ABS marking of the object.

- (82) *Eni-r* [*už-ā* *magalu* *b-āc'ru-ti*] *b-iy-xo*
 mother-DAT [boy-ERG **bread**.III.ABS III-EAT-PST.PRT.NMLZ] know.III
 'The mother knows that the boy ate the bread.'
 Tsez (Polinsky and Potsdam, 2001: 584)

LDA does not feed further A-movement. LDA does not feed A-movement within the higher clause. This is expected if the LDA-DP A'-moves to SpecCP: a subsequent A-movement step would violate the BIM. There are configurations which seem to involve LDA followed by A-movement: LDA feeding matrix inverse and LDA binding matrix anaphors. Bruening, 2001b, however, argues convincingly that these are instances of high base-generation. I will show in chapter 6 that multiple languages simultaneously exhibit high base-generation and movement configurations, both of looking like LDA (and Hyperraising). This is also the case in Passamaquoddy: only high base-generation configurations allow matrix A-movement, whereas true LDA configurations do not (see Bruening, 2001b). Take (83) for example, where it appears to be the case that the LDA DP (*someone*) fed the matrix inverse (an A-movement operation), visible from the lack of WCO in the second movement step (that is, the raised QP can bind a matrix variable, *his mother*).

- (83) *Psi=te wen_i* ' *-kosiciy-uku-l w-ikuwoss-ol_i* [
all=EMPH someone 3-know.TA-INV-OBV 3-mother-OBV [
etoli-koti-peciya-t etolonukahk]
 IC.there-FUT-come-3CONJ gathering]
 'His_i mother knows that everyone_i is coming to the gathering.'
 Passamaquoddy (Bruening, 2001b: 274)

As Bruening, 2001b points out, these are in fact not instances of LDA: the quantifier *someone* is base-generated within the matrix clause from which it can undergo A-movement to clause-initial position. This is roots in the observation that as soon as the LDA-DP undergoes matrix A-movement, the evidence of it having been moved within the embedded clause disappears: the embedded clause can then be an island, shown in (84) (which is not possible in regular instances of LDA; neither in Passamaquoddy nor other languages, further discussed in chapter 6).

- (84) *N-kosiciy-oq al nikuwoss eli psi=te wen*
 1-know.TA-INV uncertain 1.mother C all=EMPH someone
uci-maceha-t [mesq mace-ntu]
 from-leave-3CONJ [not.yet start-sing. 1CONJ.NEG]
 '(I wonder if) my mother knows (about me) that everyone left before I started singing.'
 Passamaquoddy (Bruening, 2001b: 276)

I conclude that in LDA, movement to embedded SpecCP cannot feed subsequent A-movement in the higher clause. This supports the assumption that the initial movement step is A', thereby subsequent A-movement would violate the BIM.

LDA shows reconstruction effects for quantifier variable binding. The LDA.DP *his spouse* reconstructs into its base-position where it can be bound by the subject

quantifier *everyone*. Note that reconstruction for variable binding is per se not a strong testing ground for movement chains but here, it patterns well with the claim that the movement chain is A'-movement.

- (85) *N-kosiciy-a* [*nisuwihtic-il* *eli psi=te* *wen koselom-a-t* *t*].
 1-know.TA-3OBJ [**spouse-OBV.SG** C all=EMPH who love.TA-3OBJ-3CJ *t*]
 'I know that everyone_i loves his_i spouse.'
Passamaquoddy (Bruening, 2001b: 264)

• Probing head: [A'/A]

LDA is restricted to nominals/ ϕ -goals. Even though this is not stated explicitly in most accounts, it seems to be the case that LDA is restricted to DPs and cannot occur with adjuncts or PPs.³³ Unfortunately, I am not able to present an ungrammatical example here, since all accounts seem to take this restriction as a given since agreement is restricted exclusively to nominals in the languages under discussion.

LDA triggers information-structural effects. Usually, the target DP of LDA has to be either a topic, a focus or a wh-element (see also Mursell, 2020; 2021 for an extensive typology). That is, it either receives a topic interpretation, is indicated by a topic or focus marker ((86a), (86b) for *Passamaquoddy*), or is a wh element ((86c) for *Innu-Aimûn*).

- (86) a. *Ma=te n-kosiciy-a-wi* [*wot olu n-tatat, tan-iyut*
 NEG 1SG-know.TA-3OBJ-NEG [**this.AN TOP 1SG-father** WH-this.INAN
keti-nomkuwal-s-it *atomupil*].
 IC.FUT-lend-ITR-3SG.CONJ car]
 'I don't know which car, my father, he's going to buy.'
Passamaquoddy (Bruening, 2001b: 282)
- b. *N-kosiciy-a* [*tehpu Susehp oc menuwa-c-ih*
 1SG-know.TA-3OBJ [**only Susehp** FUT IC.buy-3SG.CONJ-PART.OBV.PL
nuhu akom].
 three.OBV.PL snowshoe.OBV.PL]
 'I know that only Susehp would buy three snowshoes.'
Passamaquoddy (Bruening, 2001b: 282)
- c. *Tshi-tshissenim-âu-â* [*auen ka-pâpîtaka*]?
 2-know-3-Q [**who** is laughing]
 'Do you know who is laughing?'
Innu-Aimûn (Branigan and MacKenzie, 2002: 400)

The LDA DP cannot lack information-structural effects. This is evident from Tsez, where non-topicalizable elements like weak quantifiers cannot undergo LDA:

- (87) *Dä-r r-iy-x/*b-iy-x* [*b-Qaq'u-si xalq'i*
 1SG.DAT IV-know-PRS/*I.PL-know-PRS [**I.PL-many-ATTR people.ABS.I.PL**
samolyot-o zow-ani-q *b-Qä-ru-ti*]
 plane-SUPER.ESS climb-MSD-POSS.ESS I.PL-fear-PST.PTCP-NMLZ
 'I know that many people are afraid to fly.'
Tsez (Polinsky, 2015: 366)

³³This is not only my impression but was confirmed in personal conversation by Peter Grishin and Johannes Mursell, who both have worked extensively on long-distance agreement patterns.

LDA configurations are subject to A'/A minimality. Agreement can target any embedded element, as is shown in Passamaquoddy (88) where either the direct object or the indirect object can undergo LDA. In section 4.9, I argued that LDA configurations, just like Hyperraising, only exhibit an [A'/A] probe on C, not on Voice. Voice, in both cases, is phasal, thus C can only search as far as SpecVoiceP. However, since the [A'/A] probe on C triggers A'-movement, an initial A'-movement step to SpecVoiceP can feed further movement to SpecCP: since neither of the two is A-movement, this is not ruled out by the BIM. Thereby, any embedded argument is accessible to LDA.

(88) *Passamaquoddy*

- a. *Susehp* 'kosiciy-a-' [*akom-* *eli* *Muwini* *kisi=*
Joseph 3-know.TI-3OBJ-OBV.PL [**snowshoe-OBV.PL** C Bear PFV=
mil-a-t *Wiphun*].
give.TA+O-3OBJ-3CJ Feather
'Joseph knows that Bear gave Feather snowshoes.'
(Bruening, 2001b: 177)
- b. *Piyel* *ma=te* *ø-wewitaham-a-wi-yil* [*weni-l*
Peter NEW=EMPH 3-remember.TA-3OBJ-NEG-OBV.SG [**who-OBV.SG**
kisi= *mil-uk* *atomupil*].
IC.PFV= give.TA+O-1SG:3CJ car]
'Peter doesn't remember who I gave a car.'
(Bruening, 2001b: 190)

LDA triggers ϕ -agreement. As we saw in all examples above, LDA is expressed via ϕ -agreement between the matrix verb and an embedded DP. This is possible because the DP moves to a position whose head involves a [ϕ] feature, making it available for agreement with a higher head.

Putting together what we saw so far, I conclude that in long-distance agreement, an [A'/A] probe on C triggers A'-movement of a DP to SpecCP, from where it becomes visible to ϕ -agreement from above.

In this section, I applied the A'/A signature to five different instances of mixed A'/A configurations: pivots in Dinka, Balinese and Malagasy, Mandarin Chinese BEI-passives and low topics/foci, Khanty passives, Hyperraising to subject/object configurations and long-distance agreement. I showed that in all of these cases, the mixture of A'- and A-properties becomes predictable as soon as one disentangles which properties tie to the movement chain (A or A'), the probing head (A, A' or A'/A) as well as the location of the movement-triggering probe (C and/or Voice).

5.8 Conclusion

I brought forward that the "typical" A'/A distinguishing properties do not all track the movement chain of a given element: rather, they tie to three different factors of the syntactic structure: i) the type of probing head (and thereby the landing site of movement; A, A' or A'/A), ii) the kind of movement (A' or A) and, iii) the position of a probe (C and/or Voice). The three factors can (configuration-specifically) combine in different ways and thereby, some languages exhibit the binary A'/A distinction we know from English whereas others give the impression to be mixed. When perceived through an A'/A signature, the mixed ones do not exhibit a mix-and-match distribution of A'- and A-properties but follow a rigid system of combinatorial possibilities. This becomes even clearer when contrasting mixed derivations with bare

A'- or A-constructions; the outcome is repeated in table 5.23, with the respective languages/constructions following in table 5.24.

	<i>probe</i>	<i>mvt type</i>	<i>feed case</i>	<i>WCO</i>	<i>anaph. bind.</i>	<i>PG</i>	<i>feed A-mvt</i>	<i>re-constr.</i>	<i>info-struct. effect</i>	ϕ -goal	ϕ -Agr.	<i>minimal</i>	<i>can cross CP</i>
i	A'	A'	×	✓	×	✓	×	✓	✓	×	×	A'	✓
ii	A'/A	A'	×	✓	×	n/a	×	✓	✓	✓	✓	A'/A	varies
iii	A	A	✓	×	✓	×	✓	×	×	✓	✓	A	×
iv	A'/A	A	✓	×	✓	×	✓	×	✓	✓	✓	A'/A	varies
<i>Movement type</i>									<i>Probe type</i>				<i>on C</i>

TABLE 5.23: Attested options for A', A and A'/A derivations

- i) English wh-extraction, topicalization, focalization, relativization
- ii) Long-distance agreement
- iii) English raising to subject, passivization
- iv) Dinka, Malagasy, Balinese promotion to pivot; Mandarin, Khanty passives, Mandarin low topics/foci, Hyperraising

TABLE 5.24: Attested configurations for A', A and A'/A derivations

The focus of this chapter was to show why certain properties tie to a specific factor. The properties tying to the movement chain come about as follows: the distinction between A-movement and A'-movement lies in their semantic nature: A-movement abstracts over individuals whilst A'-movement abstracts over choice functions. Thereby, only A-movement is able to bind a variable from its landing-site, whilst A'-movement is of the wrong type to do so. Thus, only A-movement can create new antecedents for anaphor binding and does not induce WCO. For the same reason, A'-movement can license parasitic gaps but A-movement cannot: it creates a predicate of the wrong type to be coordinated with a gap-containing adjunct. Further, I follow accounts that tie reconstruction effects to the possibility of late-insertion which only available in A-positions (before case assignment) but not in A'-positions (after case assignment). The same is true for morphological case-assignment: the dependent case algorithm runs on A-positions, not on A'-positions. Last, I assume that the ability to feed subsequent A-movement is an independently regulated property, ruling out A'-movement to feed A-movement. The properties tying to the probing head follow from the composite probe analysis in chapter 4; a composite probe agrees with a fully fitting goal (carrying [ϕ] and [A']), is insensitive to partially fitting goals in its way, and allows to establish ϕ -agreement. Last, the ability to cross a CP boundary is dependent on the location of the movement-inducing probe; if it sits on C, it permits movement to leave CP. Note that another way to put this is that we have to reduce the properties that track the A'/A movement distinction to a subset of the traditional properties: feeding case, WCO, anaphor binding, parasitic gaps, BIM and (to some extent) reconstruction effects are the criteria by which we can tell if a movement chain is of type A or type A'. This means, we do not have to let go of a (possibly language-universal) split of movement types into type A and A'. Composite A'/A derivations do not dissolve this distinction; the solely force us to rethink what properties actually track the movement chain and what properties might be

English-specific correlations. This is not visible when looking at the A'/A distinction in a single language but only becomes evident in cross-linguistic comparison. Further, the A'/A signature allows us to perceive English A'- and A-movement as only two A'/A signatures out of many (likewise possible ones). Under this view, composite A'/A constructions do not depict the exception to the norm, they solely constitute another arrangement of factors i)-iii). There are several advantages of an A'/A signature account: First, it allows us to uphold the A'/A movement distinction, even in composite probing languages. Second, it counteracts the widely criticized "anything-goes" syntax that composite probes seem to invoke. Third, the A'/A signature serves as a syntactic tool when investigating unknown and potentially mixed A'/A constructions. Fourth, the A'/A signature is an argument in favor of a featural implementation of the A'/A distinction, opposed to a positional one. In a positional account it is difficult to model that A'/A constructions can come with different mixtures of A'- and A-properties; particularly since the height of movement (CP) seems to vary quite freely. Last, the A'/A signature highlights the importance of comparative syntax and the insight we gain from it.

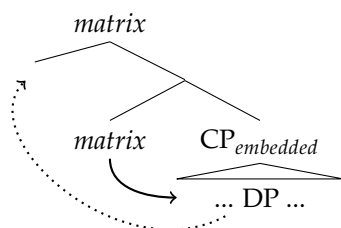
Chapter 6

A'/A in Cross-Clausal A-Dependencies

6.1 Introduction

This chapter investigates cross-clausal A-dependencies, arguing that, when embedded in a composite probe analysis, they exhibit systematic and predictable A'/A signatures.¹ The term *cross-clausal A-dependencies* (from here on abbreviated as CCA) comprises three similar phenomena, found in a variety of unrelated languages: Hyperraising to subject (HyRtS), Hyperraising to object (HyRtO), and long-distance agreement (LDA) into an embedded CP. What connects these three is that they establish an A-dependency (such as agreement) between a matrix verb and a DP inside an finite CP complement clause, which, in HyRtO and HyRtS constructions, causes the DP to A-move out of the embedded CP to a matrix argument position. A simplified structure is shown in (1).

- (1) *Cross-clausal A-dependency*



In languages like English, A-movement cannot cross a CP clause boundary, and neither can agreement reach across it. (2a) shows that English raising to subject may proceed out of a non-finite, reduced complement, but is ungrammatical when the embedded clause is a full CP, as in (2b).

- (2) *No Hyperraising to subject in English* (Zyman, 2023: 30)
- a. **She** seems [*t* to be corrupt]
 - b. ***She** seems [(that) *t* is corrupt]

¹This chapter is strongly based on Lohninger, Kovač, and Wurmbrand, 2022 and large parts of it emerged in collaboration with Iva Kovač and Susi Wurmbrand to whom I am extremely thankful for their invaluable feedback, comments and ideas. The part on independent probing was developed in collaboration with Ka Fa Yip, whom I thank for his insightful comments, analytical ideas and Cantonese data. All remaining errors are mine.

The same is true for raising to object; an A-moved subject may leave a non-finite embedded (TP) clause to become the object of the matrix verb, as in (3a), but cannot do so when the embedded clause is a CP, (3b).

- (3) *No Hyperraising to object in English* (Zyman, 2023: 30)
- a. I believed **her** incorrectly [*t* to be corrupt]
 - b. *I believed **her/she** incorrectly [(that) *t* was corrupt]

As soon as we look beyond English, however, there are many languages in which constructions like (2b) or (3b) are perfectly grammatical. Take as an example Cantonese Hyperraising to subject (HyRtS) (4) where the embedded DP *rain* is raised out of a CP complement clause and becomes the subject of the matrix verb *hear*.

- (4) *Coeng jyu tengman* [*waa t m-wui ting*]
 CL **rain** hear [C *t* not-will stop]
 Lit.: 'Rain is heard that will not stop.'
 (Int.: 'It is heard that the rain will not stop.')
Cantonese Hyperraising to subject (Lee and Yip, 2024: 2)

The same can be observed in Romanian Hyperraising to object (HyRtO): example (5) shows that an embedded DP, *Victor*, may be moved out of and embedded CP to matrix object position.

- (5) *L-am mirosit pe Victor* [*că t e fericit*]
 him-have.1SG smelled DOM **Victor** [C *t* is.3SG happy]
 Lit.: 'I smell Victor that is happy.'
 Int.: 'I figured out that Victor is happy.'
Romanian Hyperraising to object (Alboiu and Hill, 2016: 256)

Last, there are languages in which matrix ϕ -agreement can target a DP inside an embedded complement CP, referred to as long-distance agreement (LDA). This is for example grammatical in Tsez, shown in (6) where the matrix verb *know* agrees with the the embedded DP *bread*.

- (6) *Eni-r* [*už-ā magalu b-āc'ru-ti*] *b-iy-xo*
 mother-DAT [boy-ERG **bread.III.ABS** III-eat-pst.prt.nmlz] know.iii
 'The mother knows that the boy ate the bread.'
Tsez (Polinsky and Potsdam, 2001: 584)

There are three syntactic reasons that, in our current understanding of A-dependencies, should prohibit CCA (and, effectively, do so in English): the Phase Impenetrability Condition (PIC), the Ban on Improper Movement (BIM) and the Activity Condition. The PIC requires all cross-clausal movement to proceed through the left edge of the phase, that is through SpecCP. That means, if a DP wants to leave CP, it needs to move through SpecCP to do so, since only from there it is accessible to a higher probe.

- (7) *The Phase Impenetrability Condition (PIC)* (Chomsky, 2001: 14)
 The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.

In a positional approach to movement, movement to SpecCP is A'-movement (in fact, this is even the case in a featural approach under the assumption that standardly, C is merged with a bare [A'] feature). Hence, if an element moves to SpecCP,

it must have A'-moved there. The BIM prohibits an A'-chain to feed into an A-chain; thus, an element in embedded SpecCP usually cannot undergo further A-movement into a matrix argument position.

- (8) *The Ban on Improper Movement (BIM)* (paraphrased from Chomsky, 1973 *et seq*)
An A'-movement chain cannot feed an A-movement chain (in classical terms: movement from CP must land in CP, and cannot target TP)

Thereby, as soon as there is a CP boundary, PIC requires movement through SpecCP, and the presence of [A'] on C (or, rather, the absence of [A]) requires this movement to be A'-movement. Then again, A'-movement cannot feed into further matrix A-movement (BIM). Thus, under standard assumptions, Hyperraising should be prohibited. Another factor that should rule out CCA is the Activity Condition, which prohibits already case-assigned nominals from undergoing further A-movement.

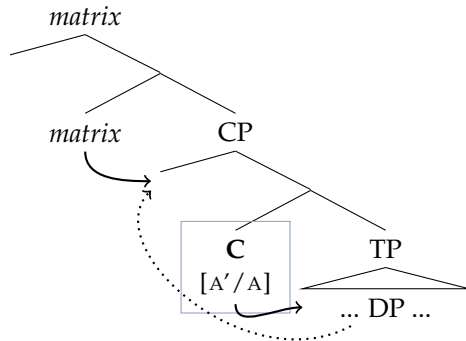
- (9) *Activity Condition* (taken from Nevins, 2004)
An XP that eliminates its uninterpretable features (*case, wh*) is rendered inactive. Inactive elements are not accessible for further operations.

In terms of the Activity Condition, CCA should be prohibited under the assumption that every finite CP clause is in general able to case-license its subject, thereby freezes it in place. To conclude, under our current understanding of syntax, we expect CCAs to be ungrammatical. The fact they are not could be explained in different ways: even if we set aside the Activity condition completely, we would have to assume that either the BIM or the PIC are not universal. That means, it is either the case that some languages allow A-movement to follow A'-movement (e.g. Kobayashi, 2020), or that some languages do not (always) require movement to proceed though SpecCP (Rackowski and Richards, 2005; Halpert, 2019; Halpert and Zeijlstra, 2024). Particularly the latter, that is an absence of PIC under certain circumstances, is often chosen as analysis for Hyperraising; I discuss such approaches in section 6.5.7. In this thesis, I propose that neither is the case, that means, languages allowing CCA neither lack PIC nor BIM; two principles which I take to be universally active in natural language. As for the Activity Condition, I assume that it does not hold universally; elements may, in general, undergo A-movement after having been case-assigned or agreed with (see also Béjar and Massam, 1999; Branigan and MacKenzie, 2002; Rezac, 2004; Merchant, 2006; Asarina, 2011; van Urk, 2015; Zyman, 2017; Chen, 2018; Fong and Halpert, 2023). I suggest that what enables CCA is the presence of an [A] feature on C (along the lines of Tanaka, 2002; Şener, 2008; Ademola-Adeoye, 2011; Alboiu and Hill, 2016; Bondarenko, 2017; Zyman, 2017; Wurmbrand, 2019; Fong, 2019; Mursell, 2021; Gong, 2022; Lohninger, Kovač, and Wurmbrand, 2022); in my account, [A] is part of an [A'/A] probe. The [A] probe allows movement to SpecCP to have A-quality and thereby take part in matrix agreement (and A-movement) without violating either the PIC nor the BIM. This chapter describes fine-grained distinctions across CCA constructions and presents a composite probe analysis which is able to capture both the variation as well as the systematic correlations. It will derive two different A'/A signatures for CCA, both of which are attested empirically.

In a nutshell, I suggest that embedded C carries an [A'/A] probe which attracts an embedded DP to its specifier. In HyRtS and HyRtO, [A'/A] induces A-movement, whereas in LDA, it triggers A'-movement; in both cases, the DP at SpecCP becomes accessible to a matrix ϕ -probe. In HyRtS and HyRtO, the DP further A-moves to

matrix subject or object position whereas in LDA, the DP remains in SpecCP and is targeted by long-distance ϕ -agreement. A simplified structure is shown in (10).

(10) CCA mediated by $[A'/A]$ on embedded C



6.2 Overview

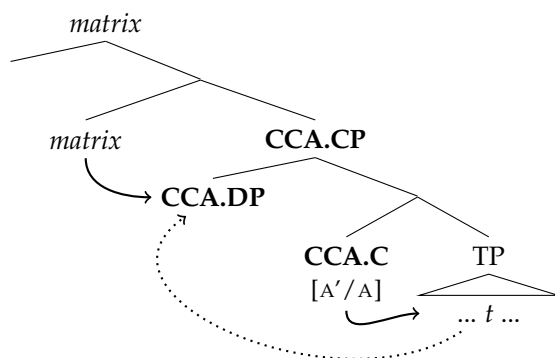
Section 6.3 starts by presenting the relevant examples of CCA for this thesis: Hyperraising to subject in Brazilian Portuguese and Cantonese, Hyperraising to object in Mongolian, Nez Perce, Romanian and Turkish and Long-distance agreement in Innu-Aimûn, Passamaquoddy and Tsez. In section 6.4, I present some of the widely agreed-upon properties of CCA: I start with the ones that are uniform across CCA configurations (the free alternation with non-CCA constructions, a fully finite CP complement clause, and movement of the CCA.DP within/out of the complement clause) and proceed to the properties where CCA-configurations differ cross-linguistically (a restriction to the embedded subject, obligatory information-structural effects, the allowance for A'-movement to co-occur with CCA and the movement chain involved in CCA). Based on these empirical properties, I present a composite probe analysis for CCA in section 6.5. I suggest that the composite probe on embedded C emerges via a fusion of a predication phrase RP and CP. The generated $[A'/A]$ probe can trigger different movement chains to the embedded left edge; A-movement in Hyperraising and A'-movement in LDA. The different movement chains, combined with the phasal status of embedded VoiceP, explain the distinct minimality profiles of the two constructions: Hyperraising, involving A-movement, is restricted to embedded subjects, whereas LDA, involving A'-movement, is not. Further, I suggest that languages may allow $[A'/A]$ probes to split up and probe independently when no fully fitting goal is found. Whether a language permits independent probing is visible from the optional lack of information-structural effects and the allowance for A'-movement to co-occur with CCA in some languages. As part of this section, I address alternative accounts to CCA, and argue how a composite probe approach makes the best predictions concerning the cross-linguistic variation we find in CCAs. In section 6.6, I present the two empirical A'/A signatures of CCA configurations (section 6.6.1 for Hyperraising and in section 6.6.2 for LDA), both of which follow from my analysis. In the last section, 6.7, I compare CCA with constructions that look similar on the surface but exhibit a different underlying syntax: hanging topic constructions and prolepsis, in both of which the relevant DP is base-generated outside of the embedded clause. I argue that, in principle, hanging topics/ prolepsis and CCA may co-exist in a single language. In order to disentangle high base-generation from proper CCA configurations, I present syntactic tools

that allow to cross-test mutually exclusive properties. This last section is not directly relevant to the analysis above but serves as an "add-on" and presents CCA in the broader context of similar derivations. In section 6.8, I conclude.

6.3 Examples of CCA

Before we delve into the properties of CCA and the proposed A'/A analysis, I present the relevant examples and A'/A mixtures that form the basis for our discussion. Let us start with the terminology: I refer to all instances of cross-clausal A-dependencies (Hyperraising to subject or object and long-distance agreement) as **CCA**. I abbreviate Hyperraising to subject as **HyRtS**, Hyperraising to object as **HyRtO** and long-distance agreement as **LDA**. The (embedded) DP undergoing CCA is referred to as **CCA.DP**; the CP out of which CCA happens is labeled **CCA.CP** and its head, which carries the relevant [A'/A] probe, **CCA.C**. Later in the chapter, after the first part of the analysis, I also refer to CCA.DP as RP+CP and to CCA.C as R+C. Structure (11) summarizes the terminology.

(11) Terminology of CCA



6.3.1 Hyperraising to subject

To illustrate Hyperraising to subject, I use examples from Brazilian Portuguese (Nunes, 2008; Nunes, 2009; 2010; Martins and Nunes, 2010; Petersen and Terzi, 2014; Kobayashi, 2020; Dias, 2022), see (12), and Cantonese (Lee and Yip, 2024), shown in (13).

- (12) *Os meninos parecem [que t fizeram a tarefa]*
the boys seem.3.PL [C t did.3.PL the homework]
 'The boys seem to have done their homework.'

Brazilian Portuguese (Nunes, 2009: 5)

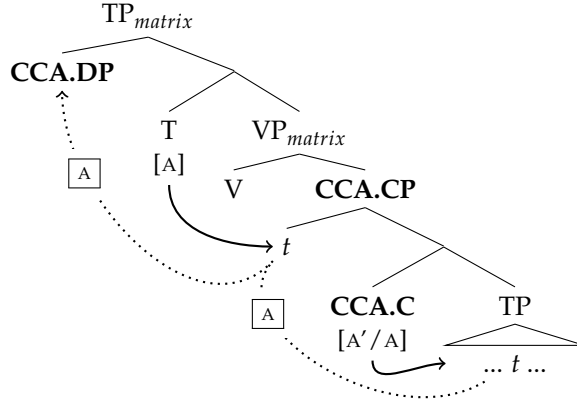
- (13) *Coeng jyu tengman [waa t m-wui ting]*
 CL **rain** hear [C t not-will stop]
 Lit.: 'Rain is heard that will not stop.'
 (Int.: 'It is heard that the rain will not stop.')

Cantonese (Lee and Yip, 2024: 2)

In both cases, the embedded subject has raised out of a CP complement clause to become the subject of the matrix clause, triggering ϕ -agreement with the matrix verb. This movement exhibits qualities of an A-movement chain, whilst at the same time, the embedded CP is a full propositional clause, introduced by a complementizer,

exhibiting an independent time-reference. The structure I will propose for HyRtS is depicted in (14): an $[A'/\bullet A\bullet]$ probe on C mediates A-movement through CCA.CP, terminating in the subject position of the unaccusative matrix verb.

(14) *Hyperraising to subject via $[A'/A]$*



HyRtS configurations exhibit a mixture of A' - and A-properties outlined in table 6.1. The properties "new anaphors for antecedent binding" and "parasitic gaps" lack values, since I do not have data showing how HyRtS behaves with respect to these. The property "information-structural effects", on the other hand, has both the value yes and no; this is the case because information-structural effects like topicalization may be present in HyRtS but, in some languages, may also be absent—I discuss this in section 6.4.2 and ascribe it to the ability of $[A'/A]$ to probe independently (section 6.5.5).

	A-mvt	A' -mvt
restricted to noun phrases/ ϕ -elements	☒	–
can proceed across CP boundary	–	☒
creates new antecedents for anaphor binding	+	–
induces weak crossover	☐	+
licenses parasitic gaps	–	+
must reconstruct	☐	+
interacts with case/ ϕ	☒	–
can bypass intervening DPs (minimality)	☐	+
can feed into A-movement (BIM)	☒	–
info-structural/ clause-typing effects	☐	☒

TABLE 6.1: HyRtS A'/A properties

Apart from Brazilian Portuguese and Cantonese, we find HyRtS constructions in Dholuo (Ura, 1994), Greek (Alexiadou and Anagnostopoulou, 1999, Petersen and Terzi, 2014), Jordanian Arabic (Farghal, 2020), Lubukusu (Carstens and Diercks, 2009), Vietnamese (Lee and Yip, 2024) and Zulu (Halpert, 2012; 2016; 2019; Halpert and Zeller, 2015). Given the scope of this thesis, I restrict my discussion to Brazilian Portuguese and Cantonese but refer the interested reader to an extensive overview in Ademola-Adeoye, 2011.

6.3.2 Hyperraising to object

For Hyperraising to object, I draw on data from Mongolian (Guntsetseg, Maezawa, and Yokogoshi, 2010; Fong, 2019; Gong, 2022), Nez Perce (Deal, 2017a), Romanian (Alboiu and Hill, 2013; 2016) and Turkish (Şener, 2008; 2011). In HyRtO, an embedded subject moves out of a CP into the matrix object position or to an A-position high enough in the embedded clause to be visible to matrix case assignment. Hyperraising to object is also referred to as Hyper exceptional case marking (Hyper ECM), depending on the underlying assumptions about raising to object and the exact syntactic analysis (e.g. Şener, 2011 argues that in Turkish, the CCA.DP remains in SpecCP, Fong, 2019 proposes that in Mongolian, the CCA.DP can optionally either remain in SpecCP or move to the matrix clause). For the sake of simplicity, I label all instances as "HyRtO", however, it is not vital for my analysis whether there is a subsequent A-movement step into the matrix clause or if the CCA.DP terminates at embedded SpecCP.² Mongolian (15) depicts an example of HyRtO: the embedded subject *dog* moves out of the embedded clause into matrix object position where it receives matrix accusative case.

- (15) *Bat nokhoi-g chang-aar [t gaikhal-tai gej] khel-sen*
 Bat **dog-ACC** loud-INSTR [*t* wonder-with C] say-PST
 'Bat said loudly that dogs are wonderful.' *Mongolian* (Fong, 2019: 3)

Similarly, in Romanian (16), the embedded subject *Victor* may move out of a CP complement clause and become the object of the matrix clause.

- (16) *L-am mirosit pe Victor [că t e fericit].*
 him-have.1SG smelled **DOM Victor** [C *t* is.3SG happy]
 'I figured out that Victor is happy.' *Romanian* (Alboiu and Hill, 2016: 256)

A similar configuration is grammatical in Turkish: in (17), the embedded subject *you* moves to the embedded clause edge where it receives matrix accusative case.

- (17) *Pelin [sen-i Timbaktu-ya git-ti-n diye] duy-muş*
 Pelin [**you-ACC** Timbaktu-DAT go-PST-2.SG C] hear-EVID.PST
 'Pelin believes that you went to Timbaktu.' *Turkish* (Şener, 2008: 3)

Last, Deal, 2017a proposes that in Nez Perce, embedded DPs may undergo covert HyRtO. In (18), the embedded subject *Angel* agrees with the matrix verb and covertly A-moves to a matrix object position.

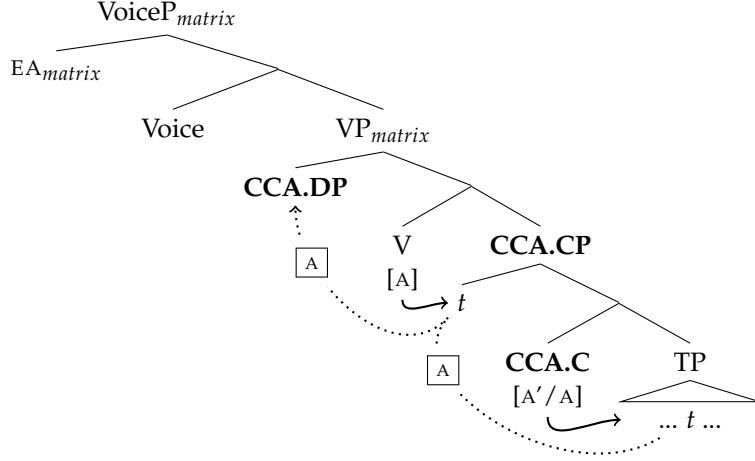
- (18) *Harold-nim hi-nees-nek-se [hitemenew'eet hi-wsiix*
 Harold-ERG 3SUBJ-O.PL-think-IMPERF [**student.NOM** 3SUBJ-be.PRS.PL
wiweepcux]
 smart]
 'Harold thinks the students are smart.' *Nez Perce* (Deal, 2017a: 5)

As I will argue in my analysis (section 6.5), all four cases of HyRtO involve an A-movement step to embedded SpecCP, induced by an [A'/A] probe. A-movement

²I suggest that Hyperraising configurations are established via two movement steps: first, movement to embedded SpecCP and from there, movement to the matrix clause. The relevant movement step is the first one, to embedded SpecCP. Thus, whether a second movement step to the matrix clause follows or whether case-assignment simply reaches an A-position in embedded SpecCP is not decisive for the analysis.

to embedded SpecCP can feed into subsequent A-movement into the matrix object position, as depicted in structure (19).

(19) *Hyperraising to object via [A'/A]*



HyRtO configurations exhibit the mixture of A'- and A-properties outlined in table 6.2. The properties "new antecedents for anaphor binding" and "parasitic gaps" lack values, since I lack the relevant data. The property "information-structural effects", is marked with both the values yes and no; this is the case because information-structural effects may be absent in some languages (see section 6.4.2).

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	[+]	–
can proceed across CP boundary	–	[+]
creates new antecedents for anaphor binding	+	–
induces weak crossover	[–]	+
licenses parasitic gaps	–	+
must reconstruct	[–]	+
interacts with case/ ϕ	[+]	–
can bypass intervening DPs (minimality)	[–]	+
can feed into A-movement (BIM)	[+]	–
info-structural/ clause-typing effects	[–]	[+]

TABLE 6.2: HyRtO A'/A properties

Other instances of HyRtO can be found in Buryat (Bondarenko, 2017), Chamorro (Davies, 2005), Fijian (Massam, 1985), Herero (Kavari and Marten, 2005), Janitzio P'urhepecha (Zyman, 2017, 2018), Japanese (Horn, 2008), Kazakh (Otott-Kovács, 2023), Korean (Lee, 2016), Quechua (Cole and Hermon, 1981, Nakamura, 1998), and Tatar (Podobryaev, 2014). I discuss Korean again in section 6.7, arguing that what looks like HyRtO might in fact be an instance of embedded hanging topics (along the lines of Yoon, 2007). For a discussion of all other languages, the scope of this thesis is, unfortunately, too narrow.

6.3.3 Long-distance agreement

The last instance of CCA is long-distance agreement into a finite CP complement clause. LDA is found in a variety of languages; in this thesis I draw on data from Innu-Aimûn (Branigan and MacKenzie, 2002), Passamaquoddy (Bruening, 2001b; LeSourd, 2019; Grishin, 2023) and Tsez (Polinsky and Potsdam, 2001).

In Innu-Aimûn (20), the matrix verb *know* expresses object ϕ -agreement with the embedded DP *Joseph* across a CP boundary.

- (20) *Ni-tshissenim-ânân-ø* [*mûpishtuât Shûshepa Tshân mâk Mânî*]
 1PL-know-1PL-3 [visit **Joseph** John and Marie]
 ‘We know that John and Marie visited Joseph.’
Innu-Aimûn (Branigan and MacKenzie, 2002: 388)

Similarly, in Passamaquoddy (21), the matrix verb *suspect* ϕ -agrees with a DP (*her child*) embedded in a CP complement clause.

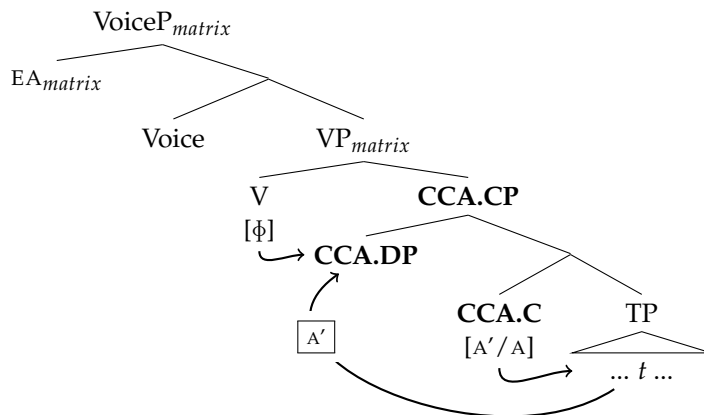
- (21) *Mali ’-piluwwitaham-a-l* [*ø-nican-ol keq kisi= wapol-oluhke-ø*]
 Mary 3-suspect-3OBJ-OBV.SG [3-child-OBV.SG what PFV= wrong-do-3]
 ‘Mary suspects her child of wrongdoing.’
Passamaquoddy (Grishin, 2023: 153)

In Tsez (22), the matrix verb agrees (in noun-class) with the DP *bread*, embedded in a finite CP complement clause.

- (22) *Eni-r* [*už-ā magalu b-āc’ru-li*] *b-iy-xo*
 mother-DAT [boy-ERG **bread**.III.ABS III-EAT-PST.PRT.NMLZ] know.III
 ‘The mother knows that the boy ate the bread.’
Tsez (Polinsky and Potsdam, 2001: 584)

In section 6.5, I argue that LDA, like Hyperraising, is mediated by an $[A'/A]$ probe on embedded C. Unlike Hyperraising, this probe triggers A'-movement of a matching DP to SpecCP. From there, DP is accessible to matrix ϕ -agreement, but cannot undergo further A-movement, as it would thereby violate the BIM. The relevant structure is depicted in (23).

- (23) Long-distance agreement via $[A'/A]$



The A'/A mixture of LDA is summarized in table 6.3; notably, it looks very different from everything we saw so far. This is the case because the movement chain

involved in LDA is an A' -chain, whereas in all other instances of $[A'/A]$ probing investigated in this thesis, it is an A -chain. Thereby, all movement-related properties take an A' -value in LDA and the A'/A mixture appears to be very different from the others. In an A'/A signature analysis, this is not unexpected at all; the movement chain differs but it is still induced by a composite $[A'/A]$ probe on C , just like in the Hyperraising configurations above.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak crossover	–	+
licenses parasitic gaps	–	+
must reconstruct	–	+
interacts with ϕ	+	–
interacts with case	+	–
can bypass intervening DPs (minimality)	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 6.3: The LDA A'/A properties

Other instances of LDA can be found in a variety of other Algonquian languages, as well as Hinuq (Forker, 2012), Khwarshi (Khalilova, 2008), and Uyghur (Asarina, 2011; Asarina and Hartman, 2011; Shklovsky and Sudo, 2014).

6.4 Properties of CCA

This section presents the empirical properties of CCA configurations cross-linguistically, laying the ground for an composite probe analysis. It is divided into two parts; in the first part, 6.4.1, I show what properties are uniform across CCA configurations in different languages; i) CCA is always optional, alternating with a non-CCA version of the clause, ii) the complement clause is a fully finite CP, iii) the CCA.DP originates in an embedded argument position, from where it moves to embedded the embedded clause-edge (SpecCP) and, in case of Hyperraising, further to the matrix clause. In the second part, 6.4.2, I demonstrate which properties diverge across CCA configurations: i) some but not all CCA configurations are restricted to the embedded subject, ii) some CCA configurations obligatorily involve information-structural effects (like a topicality requirement on the CCA.DP) whilst others may lack them, iii) some languages allow additional (long-distance) A' -movement to co-occur with CCA, whilst others do not and iv) CCA involves different movement chains: LDA exhibits A' -movement whereas Hyperraising shows all hallmark properties of A -movement. Table 6.4 gives an overview of the empirical landscape of CCA configurations. As is already visible in this table, the four non-uniform properties of CCA are not randomly distributed but fall into three classes (divided by the horizontal lines). In the course of this chapter I will show that (obligatory) information-structural effects correlate with the (in)ability to allow additional A' -movement, whereas subject

restriction effects strictly correlate with whether the construction involves A- or A'-movement. Both correlations will be accounted for under my analysis.³

Language	CCA	op- tional	emb. CP	emb. mvt	mvt chain	A- min.	info- struct.	add. A'-mvt
<i>Braz. Port.</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Cantonese</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Mongolian</i>	HyRtO	✓	✓	✓	A	✓	×	✓
<i>Nez Perce</i>	HyRtO	✓	✓	✓	A	✓	?	?
<i>Romanian</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Turkish</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Innu-Aimûn</i>	LDA	✓	✓	✓	A'	×	✓	?
<i>Passam.</i>	LDA	✓	✓	✓	A'	×	✓	×
<i>Tsez</i>	LDA	✓	✓	✓	A'	×	✓	×

TABLE 6.4: The typology of CCA

6.4.1 Uniform properties

Three properties are uniform across all CCA configurations: i) CCA configurations are optional, that is always alternate with a non-CCA counterpart, ii) CCA operates into/ out of a fully finite, propositional CP complement clause and iii) the CCA.DP moves from an embedded argument position to embedded SpecCP (and, in Hyper-raising, further to the matrix clause).

Optionality of CCA

One consistent property of CCA configurations is that they are optional; CCA always alternates with a parallel, non-CCA configuration. This is shown in (24) for Innu-Aimûn LDA: the matrix verb can either agree with an embedded DP, establishing LDA, as in (24a), or express TI (transitive inanimate) agreement, which reflects either default agreement or agreement with the whole embedded clause, as in (24b). The two options alternate freely (Branigan and MacKenzie, 2002; Mursell, 2021).

(24) *LDA is optional: Innu-Aimûn* (Branigan and MacKenzie, 2002: 388)

- a. *Ni-tshissenim-ânân-at* [*mûpishtuât Shûshepa Tshân mâk Mânî*]
1PL-know-1PL-3PL [visit Joseph John and Marie]
'We know that John and Marie visited Joseph.'
- b. *Ni-tshissenitamû-ânân* [*mûpishtuât Shûshepa Tshân mâk Mânî*]
1PL-know-TI-1PL [visit Joseph John and Marie]
'We know that John and Marie visited Joseph.'

Similarly, HyRtS always alternates with a non-raising structure: this is evident from Brazilian Portuguese where the HyRtS construction in (25a) is freely interchangeable with a construction where the embedded subject remains inside the embedded

³I try to present as many examples as possible but, restricted by the scope of this thesis, have to limit myself to one or two examples per argument. I decided to use examples from a broad variety of languages, and am aware of the fact that these often do not depict minimal pairs. As a typological generativist, one is always in the trench between selecting one language and thereby narrowing down the typological claims or presenting a variety of languages and thereby potentially weakening the data accuracy; as this thesis aims to present a broad typological picture, I chose the second path.

clause, and the matrix subject position is empty (that is, filled with a silent expletive), as in (25b).

(25) *HyRtS is optional: Brazilian Portuguese* (Nunes, 2008: 84)

- a. *O João parece [que t comprou um carro]*
the João seem.3SG [C t bought a car]
 'It seems that João bought a car.'
- b. *Parece [que o João comprou um carro]*
 seem.3SG [C **the João** bought a car]
 'It seems that João bought a car.'

The same is true for HyRtO constructions; they consistently alternate with a regular embedded CP. In Turkish, for example, the embedded subject may either raise to matrix position (and receive ACC there), (26a) or remain within the embedded clause, where it is NOM marked like a regular subject, as in (26b).

(26) *HyRtS is optional: Turkish* (Şener, 2011: 3)

- a. *Pelin [sen-i Timbuktu-ya git-ti(-n) diye]*
 Pelin-NOM [**you-ACC** Timbuktu-DAT go-PST(-2SG) C]
bil-iyor-muş
 know-PROG-EVID.PST
 'Pelin believes that you went to Timbuktu.'
- b. *Pelin [sen-ø Timbuktu-ya git-ti-n diye]*
 Pelin-NOM [**you-NOM** Timbuktu-DAT go-PST-2SG C]
bil-iyor-muş
 know-PROG-EVID.PST
 'Pelin believes that you went to Timbuktu.'

The complement clause is a full CP

The embedded clauses out of which CCA proceeds are full CPs: i) they are selected by matrix perception and attitude verbs, ii) exhibit an independent tense value and iii) involve the same complementizer that would introduce "regular" CP-sized complement clauses. In terms of Wurmbrand and Lohninger, 2023, they classify as *propositional* clauses, the structurally largest, least transparent and most independent form of complement clauses which usually correspond to a CP structure.

Matrix predicates CCA configurations only occur with a limited set of CP selecting matrix predicates, usually being perception or attitude verbs. In Brazilian Portuguese HyRtS is restricted to *seem*, *turn out* and *be on the verge of* (Nunes, 2008). In Nez Perce, LDA is only permitted with matrix *think* and *know*, but prohibited under speech verbs (Deal, 2017a). According to Grishin, 2023, LDA in Passamaquoddy is restricted to attitude predicates, which embed full CP complement clauses: epistemic, emotive, or perception predicates. Tsez LDA is possible under the verbs *know*, *see*, *be clear*, *remember*, *learn*, *bother* (Polinsky and Potsdam, 2001; Polinsky, 2015). Cantonese and Vietnamese restrict HyRtS to unaccusative evidential verbs such as *feel like*, *hear*, *suspect*, *believe* (Lee and Yip, 2024). The same is true for HyRtO in Romanian which is only possible with verbs of knowledge and perception like *see/realize*, *hear/find out*, *smell/figure out* (Alboiu and Hill, 2016). Take as a showcase example Romanian (27), where only perception verbs allow CCA, whereas verbs of speech do not permit HyRtO out of their complement clause.

(27) *Romanian HyRtO: matrix verb selection*

- a. *L-am auzit pe Mihai* [*că t repară casa*].
 him-have.1SG **heard** DOM **Mihai** [C t fixes house.the]
 ‘I’ve heard that Mihai is fixing the house.’ (Alboiu and Hill, 2016: 256)
- b. **L-am spus pe Victor* [*că t e fericit*].
 him-have.1SG **said** DOM **Victor** [C t is.3SG happy]
 ‘I said that Victor is happy.’ (I. Giurgea, p.c.)

Temporal independence CCA.CPs are temporally independent of the matrix clause; this means the embedded proposition may refer to a tense before or after the matrix tense. This is usually only found with the largest, most independent type of complement clauses and often indicates the presence of a CP layer (Ramchand and Svenonius, 2014; Wurmbrand and Lohninger, 2023). In Romanian HyRtO (28), the embedded tense can be future, past, or receive a habitual interpretation; all three are independent of the matrix tense.

(28) *Romanian HyRtO: free embedded tense* (Alboiu and Hill, 2016: 265)

- a. *Am auzit-o pe Maria* [*că t nu va dormi acasă*]
 have.1SG heard-her DOM **Maria** [C t not FUT sleep home]
 ‘I heard Maria (say) that she wasn’t going to be sleeping at home.’
- b. *Am auzit-o pe Maria* [*că-își t uitase cheile*
 have.1SG heard-her DOM **Maria** [C-REFL.DAT t has.forgotten keys.the
 / *că-își uită cheile des*]
 / C-REFL.DAT forgets keys.the often]
 ‘I heard Maria (say) that she had forgotten her keys/that she often forgets her keys.’

In some languages, particularly the ones expressing LDA, CCA.CPs may even be interrogatives, as shown in (29) for Innu-Aimûn.

- (29) *Tsh-uî-tshissenim-itinâu* [*tân ishpush Pîn mâk tshîn tshi-nîshipet-ûtaû*]
 2-want-know-1/2PL [when **Paul and you** 2-stop-2PL]
 ‘I want to know when Paul and you stopped.’
Innu-Aimûn (Branigan and MacKenzie, 2002: 389)

Overt complementizer Most instances of CCA.CPs are introduced by an overt complementizer which is the same as the one used for regular, non-CCA CP complement clauses. Take as an example Brazilian Portuguese *que*, which introduces both CCA.CPs, (30a) as well as regular CP complement clauses, (30b) (out of which CCA could not take place).

(30) *Brazilian Portuguese complementizer*

- a. *Os meninos parecem* [*que t fizeram a tarefa*]
 the boys seem.3.PL [C t did.3.PL the homework]
 ‘The boys seem to have done their homework.’ (Nunes, 2009: 5)
- b. *Eu sei* [*que o João comprou um carro*]
 1SG know.1SG [C the João bought a car]
 ‘I know that João bought a car.’
 (adapted from Nunes, 2008: 84; I. Facchim, p.c.)

Other complementizers used for both CCA and regular CPs (in the languages under discussion) are: Cantonese *waa* (Lee and Yip, 2024), Turkish *diye* (Şener, 2008; 2011),

- (33) *N-kosiciy-a-k [kis-ankuweht-uwon [atomupil-ol **Piyel naka Susehp**
 1-know.TA-**DIR-3P** [PERF-sell-2CONJ [car-INAN.P **Piyel and Susehp**
mil-osk-opon-il]]
 give-2CONJ.INV-PRET-PART.INAN.P]]
 Int.: 'I know (about them) that you sold [the cars Piyel and Susehp gave
 you].'
Passamaquoddy (Bruening, 2001a: 8)

Island sensitivity is reported for almost all investigated instances of CCA; Brazilian Portuguese (Martins and Nunes, 2010; Lohninger, Kovač, and Wurmbrand, 2022), Mongolian (Fong, 2019), Nez Perce (Deal, 2017a), Innu-Aimûn (Branigan and MacKenzie, 2002) and Tsez (Polinsky and Potsdam, 2001). For Turkish, I do not have data on the presence or absence of island effects Otott-Kovács, 2023 reports for Kazakh that HyRtO is sensitive to islands. HyRtO in Kazakh and Turkish (both being Turkic languages) exhibit a broad set of related properties, thus I do not expect HyRtO in Turkish to be possible out of embedded islands.

Prohibition of resumptive pronouns CCA prohibits resumptive pronouns; the gap left by the moved CCA.DP cannot be overtly filled with a pronoun. This suggests that CCA is movement that leaves behind a trace/copy in the embedded argument position (instead of high-base generation and co-indexation with an embedded pronoun). In Cantonese (34) we see that the raised CCA.DP *Ming* cannot be resumed by an overt pronoun (*keo*) in its launching site.

- (34) ***Aaming** gamgok [waa (***keo**) m-wui lai]
Ming feel-like [C (*3SG) not-will come]
 'It is felt that Ming will not come.'
Cantonese (Lee and Yip, 2024)

Similarly, Mongolian HyRtO cannot involve an overt pronoun in the complement clause, shown in (35).

- (35) ***Dorj Nara-g** chang-aar [(***ter**) sain gej] khel-sen
 Dorj **Nara-ACC** loud-INSTR [(*3SG) good C] say-PST
 'Dorj said loudly that Nara will come tomorrow.'
Mongolian (Fong, 2019: 19)

Last, Passamaquoddy LDA exhibits a related but slightly different phenomenon; it does not allow a matrix prothetic object (*about him* that is coreferent with an embedded CCA.DP (*Piyel*), see (36)). Note that (36) is not fully parallel to the two constructions above but still shows that CCA involves only one argument instead of two co-indexed ones.⁵

- (36) *N-kosiciy-a **nekom** [eli **Piyel** koti-nathul-at Susehp-ol]
 1-know.TA-**DIR 3SG** [C **Piyel** FUT-pick.up.in.boat-3CONJ Susehp-OBV]
 Int.: 'I know about him that Piyel will pick up Susehp in a boat.'
Passamaquoddy (Bruening, 2001a: 9)

Ungrammaticality of embedded resumptive pronouns is also reported for Brazilian Portuguese (Martins and Nunes, 2010), and Romanian (Alboiu and Hill, 2016). The same restriction on prothetic objects as in Passamaquoddy can be found in Innu-Aimûn (Branigan and MacKenzie, 2002) and Tsez (Polinsky, 2015). For the other two

⁵Note also that (36) looks like a condition C violation; Bruening, 2001a, however, argues that Passamaquoddy allows condition C violations, thus this should not be the source of ungrammaticality.

languages under discussion, Turkish, Nez Perce, no disallowance of resumptive pronouns is not reported; however, there is no indication that it should be grammatical in either one of them.

Idiom preservation Another indication that the CCA.DP originates from within the embedded clause comes from idiom preservation. As we know from English, an embedded idiom may be preserved under raising, see (37a) but not under constructions that involve two thematic argument positions, like control, shown in (37b).

- (37) a. **The cat** seems [*t* to be out of the bag]
 b. ***The cat** promises [PRO to be out of the bag]

The same effect can be found in Hyperraising constructions: in Brazilian Portuguese and Cantonese HyRtS, see (38) and (39) or in Mongolian HyRtO (40). This strongly suggests that the CCA.DP originated within an embedded argument position (note that for LDA constructions, where the CCA.DP is argued to remain in the embedded SpecCP, this test is not insightful).⁶

- (38) *A vaca parece [que t foi pro brejo].*
the cow seems [C *t* went to.the swamp]
 Lit.: 'It seems that the cow went to the swamp.'
 Idiomatic: 'It seems that things went bad'
Brazilian Portuguese (Martins and Nunes, 2010: 146)
- (39) *Ni-zek laaihaamou gamgok [waa t soeng sik tinngojuuk].*
this-CL toad feel.like [C *t* want eat swan.meat]
 Lit.: 'It is felt that this toad wants to eat swan meat.'
 Idiomatic: 'It is felt that (s/he) is aiming at the moon.'
Cantonese (Lee and Yip, 2024: 19)
- (40) *Dorj chang-aar Bat-iin nüü-iig [t oreë deer-ee gar-san gej].*
 Dorj loud-INSTR **Bat-GEN** EYE-ACC [*t* top on-REFL.POSS climb-PST C]
khel-sen
 say-PST
 Lit.: 'Dorj said loudly that Bat's eyes climbed on top of themselves.'
 Idiomatic: 'Dorj said loudly that Bat was very surprised.'
Mongolian (Fong, 2019: 5)

Licensing via embedded negation In many languages, CCA.DPs may be licensed via embedded negation. This indicates that they originated within the embedded verbal domain and would be surprising if they were base-merged high within or outside the complement clause. We find embedded NPI licensing in Brazilian Portuguese HyRtS and Mongolian HyRtO. In Brazilian Portuguese, the NPI *um dedo* (a finger) needs to be licensed by a clause-mate negation (*ninguém*; nobody), see (41a) and (41b). Crucially, *ninguém* may undergo Hyperraising while still being able to license the embedded NPI, as shown in (41c); this suggests that it originated within the embedded clause.⁷

⁶In Turkish, it seems to be the case that embedded idioms are not preserved under CCA, see Şener, 2008: 24. I leave open for further research whether there might be language-specific prohibitions on idiom licensing in Turkish.

⁷Şener, 2008 (p.38,39) points out that in Turkish HyRtO, the CCA.DP cannot be licensed by embedded negation. However, it seems as if it can also not be licensed by matrix negation, thus there might be another factor at play, prohibiting the combination of CCA and NPIs.

- (41) *Brazilian Portuguese NPI licensing* (Nunes, 2008: 95)
- a. *Ninguém mexeu um dedo para me ajudar*
nobody moved **a finger** to me help
 ‘Nobody lifted a finger to help me.’
 - b. **Ninguém disse [que a Maria mexeu um dedo para me ajudar]*
nobody said [C the Maria moved **a finger** to me]
 - c. *Ninguém parecia [que t ia mexer um dedo para me ajudar]*
nobody seemed [that t went move **a finger** to me help]
 ‘It seemed that nobody was going to lift a finger to help me.’

Similarly, in Mongolian, the NPI *kheniig* (nobody) must be licensed by a clause-mate negation, see (42a) and (42b). When the NPI undergoes HyRtO, embedded licensing may be maintained, (42c).

- (42) *Mongolian NPI licensing* (Fong, 2019: 7)
- a. *Nara [Dulmaa-ø **khen-iig** ch kharaa-güi gej] khel-sen*
 Nara [Dulmaa-NOM **who-ACC** CH see.PST-NEG C] say-PST
 ‘Nara said that Dulmaa did not see anyone.’
 - b. **Nara [Dulmaa-ø **khen-iig** ch khar-san gej] khelee-güi*
 Nara [Dulmaa-NOM **who-ACC** CH see-PST C] say.PST-NEG
 Int.: ‘Nara did not say said that Dulmaa saw anyone.’
 - c. *Nara **khen-iig** ch [t iree-güi gej] khel-sen*
 Nara **who-ACC** CH [t come.PST-NEG C] say-PST
 ‘Nara said that nobody came.’

Case- and ϕ -connectivity Next, in all languages that express overt ϕ -morphology, the CCA.DP agrees with both the matrix as well as the embedded predicate. This is evident from Brazilian Portuguese HyRtS, (43), where the CCA.DP *boys* triggers plural marking on both the embedded verb *do* as well as on the matrix verb *seem*.

- (43) *Os meninos parecem [que t fizeram a tarefa]*
the boys seem.3.PL [C t did.3.PL the homework]
 ‘The boys seem to have done their homework.’
Brazilian Portuguese (Nunes, 2009: 5)

We can observe the same in Innu-Aimûn LDA: in (44), both the embedded verb *help* as well as the matrix verb *remember* ϕ -agree with the CCA.DP *you* (which is realized as *pro* and reflected via 2PL agreement on both verbs).

- (44) *Tshi-tshissît-âtin [kê-uîtsi-shk Pûn utâuia]*
 2-remember-1 / 2PL [PRT-helped-3 / 2PL Paul father]
 ‘I remember that Paul’s father helped you.’
Innu-Aimûn (Branigan and MacKenzie, 2002: 389)

Similarly, in Turkish HyRtO (45), the hyperraised DP *you* triggers ϕ -agreement on the embedded verb *go* and receives accusative case from the matrix verb *believe*.⁸

- (45) *Pelin [sen-i Timbuktu-ya git-ti-n diye] duy-muş*
 Pelin [**you-ACC** Timbuktu-DAT go-PST-2.SG C] hear-EVID.PST
 ‘Pelin believes that you went to Timbuktu.’ *Turkish* (Şener, 2008: 3)

⁸As Şener, 2008 points out, ϕ -agreement on the embedded verb is optional.

That the accusative case marking on the CCA.DP stems from the matrix predicate is evident from cases where only the matrix but not the embedded verb may assign ACC. Turkish disallows ACC assignment in regular, local passive constructions: the derived subject *pasta* in (46) cannot be ACC marked.

- (46) *Makarna-ø/*y_i ye-n-di.*
 pasta-NOM/*ACC eat-PASS-PST
 'Pasta was eaten.'
 Turkish (Şener, 2011: 2)

If a passive clause serves as a complement clause to a matrix CCA predicate, ACC-marking on the subject (*pasta*) becomes grammatical.

- (47) *John [makarna-y_i ye-n-di diye] duy-du.*
 John.NOM [pasta-ACC eat-PASS-PST C] hear-PST
 'John heard that pasta was eaten.'
 Turkish (Şener, 2011: 3)

If, on the other hand, the matrix predicate *know* is passivized, ACC assignment becomes ungrammatical; this is expected if ACC stems from the matrix predicate.

- (48) [*Pelin(*-i) Timbuktu-ya gi-ti diye*] *bil-in-iyor.*
 [*Pelin(*-ACC) Timbuktu-DAT go-PST C*] know-PASS-PRS
 Int.: 'Pelin is known to have gone to Timbuktu.'
 Turkish (Şener, 2011: 3)

ϕ -agreement connectivity and/or matrix matrix case-marking is also observable in Mongolian (Fong, 2019; Gong, 2022), Nez Perce (Deal, 2017a), Romanian (Alboiu and Hill, 2016), and Passamaquoddy (Bruening, 2001b; Grishin, 2023). This picture will be refined a bit later: in the analysis brought forward in 6.5, I dissociate between case and ϕ -agreement. Case-assignment requires A-movement and is thereby only found in Hyperraising, but not LDA (for which I will show in a bit that it involves A'-movement to SpecCP), whilst ϕ -agreement can be found in both. I will propose that the CCA.DP in Hyperraising receives case twice: once in the embedded clause and once in the matrix clause, which overwrites embedded case. In section 6.5.7, I present arguments against accounts that tie CCA to the lack of embedded case.

Violations of the proper binding condition A last property showing that the CCA.DP must have originated within the embedded clause are violations of the *Proper Binding Condition* (PBC). The PBC states that a trace must be properly bound, i.e. it must be c-commanded by its antecedent (Fiengo, 1977; Lasnik and Saito, 1994). If a CCA.DP moved out of the embedded clause, it must have left a trace in its base-position. This trace must be properly bound; this means fronting the whole embedded clause (which contains the trace) should result in ungrammaticality; this prediction is borne out. We can observe this in Romanian (Alboiu and Hill, 2016) and Mongolian (Fong, 2019) HyRtO. Take as an example Mongolian (49) where the embedded subject *Dorj* was hyperraised to object. Subsequent fronting of the resumptive embedded clause is ungrammatical, indicating that it contains the hyperraised subject's trace.

- (49) *[*t_i sain seheetin gej*], Bat *Dorj-iig_i chang-aar t_{cp} khel-sen*
 [*t* good noble C] Bad *Dorj-ACC* loud-INSTR *t* say-PST
 Int.: 'That Dorj is good and noble, Bat said loudly.'
 Mongolian (Fong, 2019: 19)

This section listed properties that indicate that the CCA.DP originates within the embedded clause, from where it moves to a higher position (SpecCP, and, in some cases, further to the matrix clause). I presented data from i) island restrictions, ii) prohibition of resumptive pronouns, iii) idiom preservation, iv) embedded NPI licensing and v) case- and ϕ -connectivity, and vi) violations of the proper binding condition. Not all of these properties are observable in all languages under discussion, however, each language exhibits at least one of these properties; further, in the languages for which I lack data, no opposite values of the expected ones are reported: this means, we either get a the value we expect or a "not attested"; never a value that is contradictory to a movement analysis.⁹

6.4.2 Diverging properties

So far we saw properties that apply to all CCA configurations; optionality, full embedded CP, movement within the embedded clause. This section discusses properties in which CCA configurations differ across languages differ: i) whether the CCA.DP has to correspond to the embedded subject, ii) obligatory information-structural effects on the CCA.DP, iii) the allowance of additional A'-movement to occur out of the same clause as CCA does and, iv) the movement chain involved in CCA (based on WCO and reconstruction effects). Table 6.5 summarizes the distribution of these properties.

Language	CCA	mvt-chain	A-minimal	info-struct.	add. A'-mvt
<i>Braz. Portuguese</i>	HyRtS	A	✓	×	✓
<i>Cantonese</i>	HyRtS	A	✓	×	✓
<i>Mongolian</i>	HyRtO	A	✓	×	✓
<i>Nez Perce</i>	HyRtO	A	✓	?	?
<i>Romanian</i>	HyRtO	A	✓	✓	×
<i>Turkish</i>	HyRtO	A	✓	✓	×
<i>Innu-Aimûn</i>	LDA	A'	×	✓	?
<i>Passamaquoddy</i>	LDA	A'	×	✓	×
<i>Tsez</i>	LDA	A'	×	✓	×

TABLE 6.5: Diverging properties of CCA

Restriction to embedded subjects

English raising is restricted to embedded subjects. As (50) shows, an embedded object may not undergo raising; neither to subject nor to object position.

- (50) a. **David** seems [*t* to have bought a bike]
 b. ***The bike** seems [David to have bought *t*]
 c. I want **David** [*t* to buy a bike]
 d. *I want the bike [David to buy *t*]

CCA configurations are a bit more complex when it comes to extraction restrictions. They fall into two types: Hyperraising (both to object and subject) tends to be restricted to subjects. However, this restriction seems to not be a pure subject restriction but rather an A-minimality restriction; the CCA.DP has to be the highest DP. LDA, on the other hand, is free; any DP may become the CCA.DP.

⁹With the exception of Turkish which disallows for embedded idiom construal and licensing by embedded negation (Şener, 2008; 2011).

Hyperraising to subject/object Both Hyperraising to subject and object exhibit A-minimality restrictions, that is only highest embedded DP may undergo Hyperraising. Romanian (51a) shows that the embedded object (*Gelu*) cannot undergo HyRtO across the embedded subject (*Mioara*). The reverse, that is Hyperraising the embedded subject out of a transitive, is grammatical, see (51b).

- (51) *Romanian HyRtO subject restriction* (Alboiu and Hill, 2016: 268)
- a. **Am auzit-o pe Mioara* [*c-a* *invitat Gelu t*].
 have.1SG heard-her DOM **Mioara** [C-has invited Gelu *t*]
 Int.: 'I heard from Mioara that Gelu invited her.' (own paraphrase)
- b. *L-am auzit pe Gelu* [*c-a* *invitat-o pe Mioara*]
 him-have.1SG seen DOM **Gelu** [C-has invited-her DOM Mioara]
 'I heard Gelu (say) that he invited Mioara.'

Example (52) shows the same restriction for Brazilian Portuguese HyRtS: the embedded object *someone* cannot undergo Hyperraising across the embedded subject *student*.

- (52) **Alguém parece* [*que a aluna viu t*]
 someone seem.3SG [C the student saw *t*]
 Int.: 'It seems that the student saw someone.'
Brazilian Portuguese (Kobayashi, 2020: 6)

Subject restrictions are reported for all Hyperraising constructions under investigation. However, under closer investigation, Hyperraising is not restricted truly embedded subject, but to the highest embedded ϕ -element. This is evident from Mongolian and Nez Perce, where prior A-scrambling of an object may feed into Hyperraising. As Mongolian (53a) shows, the object *house* in its base-position cannot be the goal of CCA. If, however, this object (*house*) is A-scrambled across the (dative) subject (*Dulmaa*), it may undergo further HyRtO, as shown in (53a).

- (53) *Mongolian HyRtO may target scrambled object* (Fong, 2019: 8)
- a. *Odgerel* [*Dulmaa-d shine baishin(*-g) baigaa gej*] *khel-sen*.
 Odgerel [Dulmaa-DAT new house(*-ACC) COP.PRES C] say-PST
 'Odgerel said that Dulmaa has a new house.'
- b. *Odgerel shine baishin(-g)* [*t Dulmaa-d t baigaa gej*] *khel-sen*.
 Odgerel new house(-ACC) [*t* Dulmaa-DAT *t* COP.PRES C] say-PST
 'Odgerel said that Dulmaa has a new house.'

Similarly, in Nez Perce, an object inside VP (*children*) cannot undergo HyRtO, shown in (54a). It may, however, be scrambled out of the voice domain and, according to Deal, 2017a above the embedded subject (*Angel*) and from this position undergo further Hyperraising, as shown in (54b) (note that Nez Perce HyRtO is covert; see Deal, 2017a for a full argumentation).

- (54) *Nez Perce HyRtO may target scrambled object* (Deal, 2017a: 6)
- a. **Taamsas-nim hi-nees-nek-se* [*Angel-nim hi-naas-wapayata-ya*
 Taamsas-ERG 3.SBJ-O.PL-think-IPFV [Angel-ERG 3.SBJ-O.PL-help-PERF
mamay'as-na].
children-ACC]
 Int.: 'Taamsas thinks Angel helped the children.'

- b. 'Aayat-onm hi-nees-nek-se [watiisx mamay'as-na
 woman-ERG 3.SBJ-O.PL-think-IPFV [1.day.away children-ACC
 Angel-nim hi-naas-wapayata-ya].
 Angel-ERG 3.SBJ-O.PL-help-PERF]
 'The woman thinks Angel helped the children yesterday.'

This has two repercussions on our understanding of Hyperraising: first, other than raising out of reduced clauses (as in English), Hyperraising might have nothing to do with unlicensed subjects. For English, it is assumed that a non-finite TP cannot license its subject, thereby it has to move to the matrix clause and receive NOM/ACC from the matrix verb. Some analyses suggest the same for Hyperraising constructions (*a.o.* Ferreira, 2000; 2009; Nunes, 2008; Martins and Nunes, 2010); a CCA.CP cannot license its subject, thus it has to move it to a higher position to do so (see section 6.5.7 for a discussion of existing accounts on CCA). (53) and (54), however, show that Hyperraising may target an object as long as this object has been moved out of VP first. In these cases, the subject remains within the CCA.CP and thereby needs to be licensed therein; hence a CCA.CP seems to not in general be unable to license its subject. I conclude that the subject restriction for Hyperraising might be better formulated as a locality restriction, targeting the closest ϕ -goal (which does not necessarily have to be the subject). In my analysis in section 6.5, I propose that not even this is the case; Hyperraising is merely restricted by embedded VoiceP phasality, not by A-minimality or a subject-restriction; thereby, HyR can target anything above the embedded Voice head.

Long-distance agreement Passamaquoddy and Innu-Aimûn LDA configurations do not show any subject- or A-minimality restrictions; they allow any embedded DP to become the goal of matrix ϕ -agreement. In Passamaquoddy, LDA can freely target either an embedded subject (55a) or an embedded object (55b).

- (55) *Passamaquoddy LDA may target either subject or object*
- a. Ma=te n-wewitaham-a-w [psi=te wen tama
 NEG=EMPH 1-remember.TA-3OBJ-NEG [all=EMPH who where
 't-oli= kis-onuw-a-' 't-akom-']
 3-there= PFV-buy.TA-3OBV.PL 3-snowshoe-OBV.PL]
 'I don't remember where everyone bought his snowshoes.'
 (Bruening, 2001b: 272)
- b. N-wewitaham-a-k [ma=te
 1-remember.TA-3OBJ-PROX.PL [NEG=EMPH
 ø-nomiy-a-wi-yik mawsuwinu-wok Kehlis-k]
 3-see.TA-3OBJ-NEG-PROX.PL person.PROX.PL Calais-LOC]
 'I remember that I didn't see people in Calais.'
 (Bruening, 2001b: 259)

Innu-Aimûn behaves the same; LDA may either target the embedded subject (56a) or the embedded object (56b).

- (56) *Innu-Aimûn LDA may target either subject or object* (Branigan and MacKenzie, 2002: 388)
- a. Ni-tshissenim-ânân-ø [mûpishtuât Shûshepa Tshân mâk Mânî]
 1PL-know-1PL-3 [visit Joseph John and Marie]
 'We know that John and Marie visited Joseph.'

- b. *Ni-tshissenim-ânân-at* [*mûpishtuât Shûshepa Tshân mâk Mânî*]
 1PL-know-1PL-3PL [visit Joseph **John and Marie**]
 'We know that John and Marie visited Joseph.'

In Tsez, LDA can only target the embedded (absolutive) object, shown in (57), but not the ergative subject. As Polinsky and Potsdam, 2001 and Polinsky, 2015 point out, this is not a minimality or case restriction but rather a restriction on agreement: Tsez ϕ -agreement only targets ABS goals and never occurs with other case values. Thus, it may be the case that the ERG subject is in principle available for LDA, and has been moved to embedded CP, but matrix [ϕ] cannot access it as a goal, thereby not establish an LDA dependency.

- (57) *enir* [*už-ā magalu bāc'ruṭi*] *b-iyxo*
 mother [boy-ERG **bread.III.ABS** ate] III-know
 'The mother knows the boy ate the bread.'

Tsez (Polinsky and Potsdam, 2001: 584)

In my analysis, I will propose that the lack of minimality in LDA follows from the fact that LDA involves A'-movement to embedded SpecCP (opposed to Hyperraising, which involves A-movement to SpecCP), and thereby embedded VoiceP does not depict a barrier for the object to undergo CCA; see section 6.5 for the full argumentation. Table 6.6 summarizes the A-minimality restrictions of CCA configurations.

Language	A-minimality	Type of CCA
<i>Innu-Aimûn</i>	×	LDA
<i>Passamaquoddy</i>	×	LDA
<i>Tsez</i>	×	LDA
<i>Braz. Portuguese</i>	✓	HyRtS
<i>Cantonese</i>	✓	HyRtS
<i>Mongolian</i>	✓	HyRtO
<i>Nez Perce</i>	✓	HyRtO
<i>Romanian</i>	✓	HyRtO
<i>Turkish</i>	✓	HyRtO

TABLE 6.6: Embedded A-minimality in CCA

Information-structural effects

In most instances of CCA, the CCA.DP shows information-structural effects; these come in the forms of definiteness/specificity requirements, topicality, or, in some languages, even focality or *wh*-elements. All languages, in general, allow information-structural effects on the CCA.DP. Languages differ in the obligatoriness of these effects: some languages obligatorily require the CCA.DP to be information-structurally marked whilst others allow it to lack such effects. Innu-Aimûn, Passamaquoddy, Romanian, Tsez, and Turkish require the CCA.DP to be information-structurally marked. Brazilian Portuguese, Cantonese, and Mongolian allow the CCA.DP to lack information-structural effects.

Obligatory information-structural effects All instances of LDA (Innu-Aimûn, Passamaquoddy, Tsez) as well as HyRtO in Romanian and Turkish require the CCA.DP to be information-structurally marked. For Innu-Aimûn, Branigan and MacKenzie,

2002 state that the CCA.DP must be interpreted as a topic. Alternatively, the CCA.DP may be a wh-element, as in (58). In both cases, this shows that the CCA.DP needs to carry an [A'] feature of some kind; either [top] or a [wh].

- (58) *Tshi-tshissenim-âu-â* [*auen ka-pâpâtaka*]?
 2-know-3-Q [**who** is laughing]
 'Do you know who is laughing?'
Innu-Aimûn (Branigan and MacKenzie, 2002: 394)

The same is true for Passamaquoddy LDA: the CCA.DP needs to be a wh-element (59) or, when it is not, receive a topic interpretation (according to Bruening, 2001b; Mursell, 2020; 2021; Grishin, 2023).

- (59) 'Kociciy-a-l *Piyel* [*wen-l* *kehci=*
 3-know.TA-3OBJ-OBV.SG Peter [**who**-OBV.SG IC.big=
wewis-oski-li-t]
 nosy-behave.AI-OBV-3CJ]
 'Peter knows who is very nosy.' *Passamaquoddy* (Grishin, 2023: 165)

In Tsez LDA, the CCA.DP cannot be a wh-element or a focus (60a) but must be a topic (Polinsky and Potsdam, 2001). It may be overtly marked with the topic marker *-gon* (60b), or occur without it, (60c). According to Polinsky, 2001; Polinsky and Potsdam, 2001, the DP *bread* always receives a topic interpretation when involved in LDA, even in the absence of the topic marker *-gon*.

- (60) *Tsez LDA information-structural effects* (Polinsky, 2001: 7)
- a. **enir* [*už-ā* *magalu-kin* *bāc'ruṭi*] *b-iyxo*
 mother [boy-ERG **bread**.III.ABS-FOC ate] III-know
 Int.: 'The mother knows that the boy ate the BREAD.'
 - b. *enir* [*už-ā* *magalu-gon* *bāc'ruṭi*] *b-iyxo*
 mother [boy-ERG **bread**.III.ABS-TOP ate] III-know
 'The mother knows that the bread, the boy ate.'
 - c. *enir* [*už-ā* *magalu* *bāc'ruṭi*] *b-iyxo*
 mother [boy-ERG **bread**.III.ABS ate] III-know
 'The mother knows that the bread, the boy ate.'

Obligatory information-structural effects are not only found in LDA, but also in HyRtO: in Romanian, the CCA.DP must be evidential/topical and cannot be a bare quantifier like *someone* in (61).

- (61) **Am mirosit pe cineva* [*că t ne minte*].
 have.1 smelled DOM **someone** [C t 1PL.DAT lies]
 Int.: 'I/we suspected that someone was lying to us.'
Romanian (Alboiu and Hill, 2016: 276)

Similarly, Şener, 2011 argues that in Turkish, the CCA.DP is interpreted as topic; this is evident from the fact that it is perfectly felicitous in a contrastive topic (CT) context, as in (62), but infelicitous when associated with contrastive focus (CF), shown in (63). Focus and topicalization are usually mutually exclusive; thus the fact that the CCA.DP is not focalizable supports the claim that it is a topic.

- (62) *Turkish HyRtO with contrastive topic* (Şener, 2011: 5)

- a. *What about John? Did Pelin tell you what he ate at the party?*
Well, he didn't know about John, but...
- b. *Pelin* [**Mete-yi**_{CT} *istakoz-dan*_{CF} *ye-di diye*] *duy-muş*
 Pelin-NOM [**Mete-ACC** *lobster-ABL* *eat-PST C*] *hear-EVID.PST*
 'Pelin heard that Mete_{CT} ate from the lobster_{CF} (at the party).'
- (63) **Turkish HyRtO with contrastive focus* (Şener, 2011: 5)
- a. *Do you know if everyone (he invited) went to Mert's party?*
I haven't talked to Mert but...
- b. #*Pelin* [*yalnızca Sinan-ı*_{CF} *git-ti diye*] *duy-muş*
 Pelin [*only Sinan-ACC go-PST C*] *hear-EVID.PST*
 Int.: 'Pelin heard that only Sinan_{CF} went (to the party).'

To summarize, in Innu-Aimûn, Passamaquoddy and Tsez LDA, as well as in Romanian and Turkish HyRtO, we observe obligatory information-structural effects; usually, the CCA.DP needs to be a topic, in some cases, it may be a wh-element or a focus too. I will not investigate what exactly restricts which [A'] features are involved or excluded in CCA in which language and why, but refer the interested reader to Mursell, 2020; 2021 who brings forward an implicational hierarchy of [A'] features involved in LDA. He suggests that such languages allowing CCA with wh- or focus-elements also allow it with topics but not vice versa. Mursell's hierarchy is based on a cartographic distribution of [A'/A] probes within the CP domain and is, in principle, compatible with the analysis proposed in this thesis.

Optional information-structural effects There are languages where information-structural effects on the CCA.DP (like topicality) may be present but are not obligatory: in Brazilian Portuguese, the CCA.DP may be topical, but may also be a regular DP (Martins and Nunes, 2010): this is evident in (64) where the quantified phrase *some student* undergoes CCA. The quantifier *alguém* cannot be topicalized which shows that HyRtS in Brazilian Portuguese does not obligatorily involve information-structurally marked CCA.DPs.

- (64) *Alguém aluno parecia [que t ia viajar].*
some student seemed [C t went travel]
 'It seemed that some student was going to travel.'
Brazilian Portuguese (Martins and Nunes, 2010: 150)

A similar thing is observable in Cantonese HyRtS: the CCA.DP may be an information-structurally marked element, like the focalized DP *big company* in (65a). However, HyRtS is also possible with not information-structurally marked elements, like the weak quantifier *many people* in (65b). Weak quantifiers cannot be topicalized; nevertheless, they may serve as CCA.DP, showing that Cantonese HyRtS does not require an obligatorily information-structural interpretation of the raised DP. Note that in (65a), the focus clitic *dou* is stranded inside the embedded clause; this shows that the CCA.DP became an embedded focus first and then moved to the matrix clause (and has not simply undergone Hyperraising and then subsequent matrix focalization).

- (65) *Cantonese*
- a. *Lin taaigungsi tengman [t gamnin t dou m-paai faahung]*
even big.company hear [t this.year t also not-distribute bonus]
 'It is heard that even big companies did not distribute bonuses this year.'
 (Lohninger and Yip, 2023: 8)

- b. *Hou do jan* (*ne,) *gam gok* [*waa t wui lai*]
many person (*TOP) feel.like [C t will come]
 ‘It is felt that many people will come.’ (Lee and Yip, 2024: 18)

The same is true for Mongolian HyRtO: the hyperraised DP may be a non-referential NPI, as shown in (66). As pointed out by Fong, 2019, such NPIs cannot be topicalized, indicating that CCA in Mongolian does not require the CCA.DP to be information-structurally marked. Note that Guntsetseg, Maezawa, and Yokogoshi, 2010 points out that the CCA.DP in Mongolian preferably is referential and definite, thus the default version of Hyperraising seems to involve a form of topicality/ information-structural effects. Hence, (66) seem to depict the exception, rather than the norm.¹⁰

- (66) *Nara khen-iig ch* [*t iree-güi* *gej*] *khel-sen*.
 Nara **who-ACC** CH [*t* come.PST-NEG C] say-PST
 ‘Nara said that nobody came.’ *Mongolian* (Fong, 2019: 8)

For Nez Perce, Deal, 2017a does not mention a requirement for information-structural effects, neither does she indicate an obligatory lack thereof.

To summarize, some languages obligatory involve information-structural effects in CCA (the CCA.DP must be definiteness/specific, a topic, or, in some languages, a focus or wh-element) whereas in other languages, the CCA.DP may information-structurally marked, but there is no obligatory requirement for such an interpretation. Table 6.7 summarizes the data.

Language	Obligatory info-struct.	Type of CCA	Type of [A']
<i>Innu-Aimûn</i>	✓	LDA	[WH], [TOP]
<i>Passamaquoddy</i>	✓	LDA	[WH], [TOP]
<i>Tsez</i>	✓	LDA	[TOP]
<i>Romanian</i>	✓	HyRtO	[TOP]
<i>Turkish</i>	✓	HyRtO	[TOP]
<i>Braz. Portuguese</i>	×	HyRtS	([TOP])
<i>Cantonese</i>	×	HyRtS	([FOC], [TOP])
<i>Mongolian</i>	×	HyRtO	([DEF])

TABLE 6.7: Information-structural effects in CCA

In section 6.5.5, I will ascribe the optional lack of information-structural effects to the language-specific possibility of independent probing: the [A'/A] probe on C may (as a last resort option) split up and probe separately. If this happens, [A] alone mediates CCA (whereas [A'] establishes its own agreement or remains unvalued). When CCA is mediated solely by [A], it is expected that the CCA.DP lacks information-structural effects, as such tie to the [A'] feature of the composite probe. This proposal will supported by the fact that only those languages which may lack information-structural effects (the last three rows of table 6.7) allow CCA to co-occur with A'-movement of another element. This is expected under an independent probing approach: [A] triggers CCA, whilst [A'] may induce additional A'-movement.

¹⁰Gong, 2022 reports that hyperraising of a properly topic-marked element is ungrammatical in Mongolian; I leave the reason for this restriction open for future research.

Allowance for additional A'-movement

Some languages (Brazilian Portuguese, Cantonese, Mongolian) allow CCA to co-occur with long-distance A'-movement. This means, they allow for configurations where both a CCA.DP as well as a separate, additional A'-element leave the (same) embedded clause. Other languages (Passamaquoddy, Romanian, Tsez, Turkish) prohibit the co-occurrence of CCA and long-distance A'-movement.¹¹

CCA + A'-movement possible In some languages, CCA may co-occur with additional long-distance A'-movement. Cantonese HyRtS, for example, allows focalization, topicalization and relativization to happen out of the same clause out of which HyRtS proceeds. In (67), the embedded subject *company* is hyperraised whilst simultaneously the embedded object, *bonus* is focalized.

- (67) *Lin faahung gaan gungsi taipaa* [*t* dou m-wui paai *t*]
 even bonus CL company seem.fear [*t* also not-will distribute *t*]
 'It seems that the company will not even distribute the bonus.'
 Cantonese (Lohninger and Yip, 2023: 6)

The same is possible with topicalization (68a) and relativization (68b).

- (68) Cantonese (Lohninger and Yip, 2023: 6)
- a. *Gam-do-ceot hei, Aaming gamgok* [(*waa*) *t* dou m-zungji tai *t*]
 that.many.CL film Ming feel.like [(C) *t* all not-like watch *t*]
 'All these many films, it is felt that Ming doesn't like to watch.'
- b. [*Go fung gamgok* [*waa t wui ceoilam t*]] ge *syu*
 [CL wind feel.like [C *t* will blow.down *t*]] MOD tree
 'The tree which it is felt like the wind will blow down.'

The same holds for Brazilian Portuguese HyRtS: in (69), the embedded object *which books* may be long-distance extracted whilst the embedded subject *they* undergoes Hyperraising.

- (69) *Quais livros elas parec-em* [*que t ler-am t*]?
 which books they seem-PL [C *t* read-PL *t*]
 'Which books do they seem to have read?' (Kobayashi, 2020: 18)

In Mongolian, long-distance topicalization (70a) and (covert) wh-extraction (70b) may co-occur with HyRtO.

- (70) Mongolian
- a. *Buuz-iig bol Nara Dorj(-iig)* [*t t id-sen gej*] *khel-sen*
 buuz-ACC TOP Nara.NOM Dorj-ACC [*t t* eat-PST C] say-PST
 'The buuz, Nara said that Dorj ate.' (Fong, 2019: 28)
- b. *Nara Bat(-ig)* [*t yuu id-sen gej*] *hel-sen-be?*
 Nara Bat-ACC [*t what* eat C] say-PST-WH
 'What did Nara say Bat ate?' (S. Fong, p.c.)

CCA + A'-movement impossible Some languages disallow CCA to co-occur with additional A'-movement. In Tsez, neither wh-extraction (71a) nor topicalization

¹¹The data in this section stems from a collaboration with Ka Fai Yip and is published in Lohninger and Yip, 2023.

(71b) may co-occur with LDA (Tsez in general prohibits all sorts of long-distance extraction, thus the additional *wh*-movement or topicalization is local; see Polinsky, 2001; 2015; Polinsky and Potsdam, 2001). Note that both examples become grammatical as soon as there is no LDA: when the matrix verb agrees with the whole embedded clause (IV-agreement) instead of a CCA.DP therein, A'-extraction (to the embedded left edge) is grammatical.

(71) Tsez: *topicalization/*wh*-movement + LDA

- a. *enir* [*tɬ* *micxir* *b-ok'āk'-ru-ti*]
 mother [who.ERG **money**.III.ABS III-steal-PST.PRT-NMLZ]_{IV}
*r/ *b-iyxo*
 IV/*III-knows
 Int.: 'The mother knows who stole the money.'
 (Polinsky and Potsdam, 2001: 634)
- b. *eni-r* [*aħ-ā* *čanaqan-go-gon* *ziya*]
 mother-DAT [shepherd-ERG hunter-POSS.ESS-TOP **cow**.III.ABS
bišr-er-xosi-ti] *r/ *b-iy-xo*.
 feed-CAUS-PRS.PRT-NMLZ]_{IV} IV/*III-know-PRS
 'The mother knows that the hunter, the shepherd made (him) feed the cow.'
 (Polinsky and Potsdam, 2001: 636)

Passamaquoddy expresses a related restriction: if there is a *wh*-element present inside the embedded clause, LDA must target it, both when it stays in the embedded clause (72a), as well when it is long-distance extracted (72b). LDA cannot be established when an independent *wh*-element additionally leaves the embedded clause: in (72c), there is LDA with the embedded subject (1SG) whilst there is additional *wh*-extraction of the embedded object *who*. The outcome is ungrammatical.¹²

(72) Passamaquoddy: **wh*-movement and LDA

- a. '-Kociciy-a-l *Piyel* [*wen-l* *kehci=*
 3-know.TA-3OBJ-OBV.SG Peter [**who**-OBV.SG IC.big=
wewis-oski-li-t]
 nosy-behave.AI-OBV-3CJ]
 'Peter knows who is very nosy.'
 (Grishin, 2023: 165)
- b. **Wen** *kil piluwitaham-ot* [*kisi= komutonom-uk t*]
who 2SG IC.suspect.TA-2SG:3CJ [IC.PFV= rob.TA-1SG:3CJ *t*]
 'Who do you suspect that I robbed?'
 (Bruening, 2001b: 177)

¹²Note that LDA in Passamaquoddy is slightly more complex than described here: Grishin, 2023 points out, there are two different LDA configurations; such which occur with epistemic attitude verbs and independent CP clauses and such which occur with direct perception verbs. He suggests different clausal size for these two; epistemic LDA involves a larger CP structure than direct perception LDA. They further distinguish in their allowance of LDA to co-occur with A'-extraction. As we saw above, epistemic LDA may not co-occur with A'-extraction. Direct perception LDA, on the other hand, may co-occur with *wh*-extraction. In this thesis, I investigate only epistemic LDA; for an in-depth study and analysis of direct perception LDA, I refer to Grishin, 2023. Further, epistemic LDA is only blocked by fronted *wh*-elements. *Wh*-in-situ may co-occur with CCA, as shown in (i).

(i) *N-kosiciy-a-k* [*nuhu-wok muwinu-wok keq kis-otomu-hti-t*]
 1-know.TA-3OBJ-PROX.PL [**tree**-PROX.PL **bear**-PROX.PL what IC.PFV-eat.TI-3PL-3CJ]
 'I know what the three bears the three bears ate.'
 (Bruening, 2001b: 177)

I leave open to future research why *wh* in-situ and long-distance *wh*-extraction have different effects (not only here, see also Romanian below).

- c. **Wen kil piluwitaham-i-yin* [*kisi= komutonom-uk t*]
 who 2SG IC.suspect.TA-1OBJ-2SG.CJ [IC.PFV= rob.TA-1SG:3CJ t]
 Int.: 'Who do you suspect (of me) that I robbed?' (Bruening, 2001b: 177)

Similarly, Turkish HyRtO cannot co-occur with additional A'-movement. In (73a), the embedded subject *Mert* undergoes HyRtO, whilst simultaneously, the embedded object *girl* is relativized. The result is ungrammatical. Note that when CCA does not take place, as in (73b), object relativization out of the embedded clause is possible, hence the ungrammaticality ties to the co-occurrence of CCA and A'-movement.

(73) Turkish: *relativization + HyRtO (Şener, 2008: 33)

- a. *[(*biz-im*) *Mert-i* [*t t* *öp-tü diye*] *duy-duğ-umuz*] *kızı-ø*
 [(we-GEN) *Mert-ACC* [*t t* kiss-PST C] hear-REL-1PL.POSS] *girl-NOM*
hasta-y-muş.
 sick-COP-EVID.PST
 Int.: 'The girl that we heard that Mert kissed is sick.'
- b. [(*biz-im*) [*Mert-ø* *t* *öp-tü diye*] *duy-duğ-umuz*] *kızı-ø*
 [(we-GEN) [*Mert-NOM* *t* kiss-PST C] hear-REL-1PL.POSS] *girl-NOM*
hasta-y-muş.
 sick-COP-EVID.PST
 'The girl that we heard that Mert kissed is sick.'

Turkish HyRtO also cannot co-occur with question formation. Note that Turkish is a wh-in-situ language; along the lines of Şener, 2008, I assume that the presence of a wh-operator in CP is enough to block CCA. This is shown in (74a), where HyRtO of *Mert* and the embedded wh-element block each other. The non-CCA counterpart is grammatical, see (74b).

(74) Turkish: *wh-movement + HyRtO (Şener, 2008: 33)

- a. **Pelin* [*Mert-i* *kim-e* *vur-du diye*] *sor-du et-ti*
 Pelin-NOM [*Mert-ACC* *who-DAT* hit-PST C] ask-PST do-PST
 Int.: 'Pelin asked who Mert hit.'
- b. *Pelin* [*Mert-ø* *kim-e* *vur-du diye*] *sor-du et-ti*
 Pelin-NOM [*Mert-NOM* *who-DAT* hit-PST C] ask-PST do-PST
 'Pelin asked who Mert hit.'

Just like in Turkish, Romanian HyRtO and wh-movement block each other, see (75a): HyRtO of *Ion* cannot co-occur with wh-extraction of the embedded object. In the absence of CCA, long-distance wh-movement is grammatical, shown in (75b).¹³

(75) Romanian: *wh-movement + Hyperraising (Alboiu and Hill, 2016: 277)

- a. **Ce* *l-ai* *simțit pe Ion* [*că t nu vrea t*]?
 what him-have.2SG felt DOM Ion [C t not wants t]

¹³Note that embedded wh-movement of an adjunct is grammatical:

- (i) *Îl simt imediat pe Ion* [*când e supărat*]
 him feel immediately DOM Ion [when is upset]
 'I can tell right away when Ion is upset.'
 (Alboiu and Hill, 2016: 277)

Often, adjunct movement behaves different than other instances of A'-movement (see also Richards, 1997; van Urk, 2015; hence, I do not take the grammaticality of (i) as a counterargument to the claim that A'-extraction and Hyperraising can, in general, not co-occur in Romanian. Note that in (i), *when* also replaces the complementizer; hence, it might also simply be a form of complementizer itself, introducing the embedded clause.

- Int.: ‘What did you feel that Ion did not want?’
- b. *Ce-ai simțit [că nu vrea Ion t]?*
 what-have.2SG felt [C not wants Ion t]
 ‘What did you feel that Ion did not want?’

For Innnu-Aimûn LDA as well as Nez Perce HyRtO, I lack the data showing whether they allow or prohibit CCA with additional A'-movement. Table 6.8 summarizes which languages allow A'-movement to co-occur with CCA and which ones prohibit it. As stated before, additional A'-movement correlates with the potential absence of information structural effects: those languages which require their CCA.DP to be information-structurally marked prohibit additional A'-movement whereas those languages which allow to lack information-structural effects allow additional A'-movement. This correlation is further discussed in section 6.5.5.

Language	Additional A'-movement	Type of CCA
<i>Braz. Portuguese</i>	✓	HyRtS
<i>Cantonese</i>	✓	HyRtS
<i>Mongolian</i>	✓	HyRtO
<i>Romanian</i>	×	HyRtO
<i>Turkish</i>	×	HyRtO
<i>Passamaquoddy</i>	×	LDA
<i>Tsez</i>	×	LDA

TABLE 6.8: CCA + additional A'-movement

A- versus A'-movement

A last property in which CCA configurations across languages show variation is in whether the movement they involve resembles an A- or an A'-chain. HyRtO and HyRtS configurations are canonically analyzed as involving A-movement, whereas LDA is claimed to involve A'-movement to the embedded left edge.

A-movement There is broad agreement that Hyperraising to subject/object involves an A-movement chain (*a.o.* Ferreira, 2000; 2009; Nunes, 2008; 2009; 2010; Şener, 2008; Şener, 2011; Bondarenko, 2017; Zyman, 2017; 2018; Deal, 2017a; Fong, 2019; Gong, 2022; Lee and Yip, 2024).¹⁴ The following presents some of the empirical evidence, further data can be found in section 6.6.1, where I present the A'/A signature of Hyperraising. First, both HyRtO and HyRtS can bind a variable from their landing site; neither of them induces weak crossover. In Mongolian HyRtO (76a) the DP (*every girl*) moves from the embedded clause to the matrix clause, crossing a variable on its way (*her mother*). From its landing-site, the quantifier can bind the variable, indicating that it obviated WCO. In the not-hyperraised version of the clause, (76b), co-indexation is not possible.

(76) *Mongolian WCO*

(Fong, 2019: 29)

¹⁴Alboiu and Hill, 2016, suggest that Hyperraising to Object involves "A'-movement with A-movement properties", to a derived matrix *v*P position. Their arguments for A'-movement are information-structural effects, the fact that HyRtO crosses a CP boundary and the inability for a hyperraised element to feed into matrix passivization. The first two properties can be captured in a composite probe analysis (involving A-movement) whereas the last could be a specific restriction on passivizing derived objects.

- a. *Okhin бүр-iiḡi öör-iin-kh n'ḡi eej [t ukhaan-tai*
girl every-ACC self-GEN-EPTH POSS.3 mother [t intelligence-with
gej] khel-sen.
 C] say-PST
 'Her_i mother said that every girl_i is intelligent.'
- b. *Öör-iin-kh n'ḡ_{*i/j} eej [okhin бүрḡi ukhaan-tai gej]*
self-GEN-EPTH POSS.3 mother [girl every intelligence-with C]
khel-sen.
 say-PST
 'Her/His_{*i/j} mother said that every girl_i is intelligent.'

Further, Hyperraising constructions lack reconstruction effects, indicating that the CCA.DP has A-moved. In Brazilian Portuguese HyRtS, the CCA.DP does not reconstruct for principle C: Hyperraising can fix an underlying condition C violation. (77a) depicts the base-line example (without movement), in which an embedded R-expression (*Pedro*) cannot be co-indexed with a matrix pronoun (*he*) as this would violate principle C. If the R-expression is hyperraised across the pronoun, as in (77b), co-indexation between *Pedro* and *him* becomes grammatical. The lack of reconstruction indicates that the CCA.DP has A-moved.

(77) *Brazilian Portuguese* (F. Kobayashi, p.c.)

- a. *Parece pra ele_{*i/j} [que dois cachorros do Pedro_i correram].*
 seems to him [that two dogs of.the **Pedro** ran.PL]
 'It seems to him_{*i} that Pedro's_i two dogs ran away.'
- b. *Dois cachorros do Pedro_i parecem pra ele_i [que t correram].*
two dogs of.the Pedro seem.3PL to him [that **t** ran.3PL]
 'The two dogs of Pedro_i seem to him_i to have run away.'

Last, HyRtS in Cantonese establishes an antecedent for reflexive binding: the base-line example (78a) is ungrammatical, as a matrix reflexive precedes its antecedent (*Ming*). If *Ming* is hyperraised, as in (78b), it can bind the matrix reflexive, indicating that the CCA.DP does not reconstruct into the embedded clause.

(78) *Cantonese* (Lee and Yip, 2024: 24)

- a. **[Gangeoi keoizigei_i baan pangjau ge gongfaat] gamgok [waa*
 [according.to 3SG.SELF CL.PL friend MOD saying] feel.like [C
Aaming_i hai jat go seoijan]
Ming COP one CL bad.guy]
 Int.: 'According to what his (lit. himself's) friends said, it is felt that Ming is a bad guy.'
- b. *Aaming_i [Gangeoi keoizigei_i baan pangjau ge gongfaat] gamgok*
Ming [according.to 3SG.SELF CL.PL friend MOD saying] feel.like
 [waa **t** hai jat go seoijan]
 [C **t** COP one CL bad.guy]
 'According to what his friends said, it is felt that Ming is a bad guy.'
 (Lit.: 'Ming, according to what himself's friends said, (I) feel like, is a bad guy.')

The obviation of WCO effects, the lack of reconstruction effects and the creation of new antecedents for anaphor binding indicate that Hyperraising involves A-movement. Further empirical data supporting this claim are presented in section 6.6.1, where I

investigate the A'/A signature of Hyperraising.

A'-movement Across literature (that is, across the accounts which derive LDA via locality, i.e. movement to the embedded left edge), it is commonly assumed that this movement chain is A'-movement: the LDA.DP A'-moves to the embedded left edge from where it becomes accessible to matrix ϕ -agreement. Note that in all three languages under discussion, the CCA.DP may either surface in its embedded base-position or at the left edge of the embedded clause. Along the lines of Bruening, 2001b; 2001; Polinsky and Potsdam, 2001; Branigan and MacKenzie, 2002; Grishin, 2023, I assume that the LDA.DP in both cases undergoes movement, either overt or covert. The indications for A'-movement are not as strong as the ones for A-movement in Hyperraising, however, we do find some effects in the presence of weak crossover as well as reconstruction effects. In Passamaquoddy (79), the LDA.DP induces weak crossover: in the base-line example (79a), co-indexation between a higher variable (*his mother*) and a lower quantifier (*everyone*) is ungrammatical, as expected. If the quantifier undergoes LDA, as in (79b), it moves to the embedded SpecCP, and thereby crosses the variable. Nevertheless, co-indexation remains ungrammatical, indicating that the movement chain is of type A'.

(79) *Passamaquoddy* (Bruening, 2001a: 23)

- a. *W-ikuwoss-ol*_{*i/j} *n-kisi-kat-a-ku-n* *psi=te wen_i*
 3-mother-OBV 1-PERF-hide-APPL-INV **all=EMPH someone**
 'His_{*i/j} mother hid everyone_i from me.'
- b. *N-kosiciy-a* [*psi=te wen-(il)_i* *tama w-ikuwoss-ol*_{*i/j}]
 1-know-TA [**all=EMPH someone**-(OBV) where 3-mother-OBV
n-kisi-kat-a-ku-n t]
 1-PERF-hide-APP-INV *t*]
 Int.: 'I know (about everyone_i) where his_{*i/j} mother hid x from me.'

Similarly, Passamaquoddy exhibits reconstruction for variable binding. In (80), the LDA.DP *his spouse* reconstructs into its base-position below the quantifier *everyone*. The two can be co-indexed, even after LDA, indicating that LDA involves A'-movement.

- (80) *N-kosiciy-a* [*nisuwihitic-il_i* *eli psi=te wen_i koselom-a-t t*].
 1-know.TA-3OBJ [**spouse**-OBV.SG C **all=EMPH who** love.TA-3OBJ-3CJ *t*]
 'I know that everyone_i loves his_i spouse.'
Passamaquoddy (Bruening, 2001b: 264)

The presence of weak crossover as well as reconstruction effects suggest that LDA involves an A'-chain rather than an A-chain. Further data in support of this claim (e.g. the inability to feed matrix A-movement and the lack of A-minimality effects) can be found in section 6.6.2.

6.4.3 Summary of CCA properties

In this section I presented empirical properties of CCA configurations. What is uniform across all instances of CCA is i) their optionality and free alternation with non-CCA clauses, ii) the presence of a fully finite embedded CP clause and iii) movement from an embedded argument position. We find variation across languages in i) the minimality effects involved in CCA (Hyperraising tends to be restricted to the embedded subject whereas LDA is not), ii) the presence vs. absence of obligatory

information structural effects (some languages require the CCA to be information-structurally marked), iii) the allowance for long-distance A'-movement to co-occur with CCA (only such languages which allow the CCA.DP to lack information-structural effects allow additional A'-movement) and last, iv) whether the CCA.DP shows properties of A'-movement (LDA) or A-movement (Hyperraising). Table 6.9 summarizes the properties of CCA configurations. Crucially, the variation we find (in the last 4 columns) is not random: the movement chain correlates with minimality effects whilst information-structural effects pattern together with the allowance for additional A'-movement.

Language	CCA	op- tional	emb. CP	emb. mvt	mvt chain	A- min.	info- struct.	add. A'-mvt
<i>Braz. Port.</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Cantonese</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Mongolian</i>	HyRtO	✓	✓	✓	A	✓	×	✓
<i>Nez Perce</i>	HyRtO	✓	✓	✓	A	✓	?	?
<i>Romanian</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Turkish</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Innu-Aimûn</i>	LDA	✓	✓	✓	A'	×	✓	?
<i>Passam.</i>	LDA	✓	✓	✓	A'	×	✓	×
<i>Tsez</i>	LDA	✓	✓	✓	A'	×	✓	×

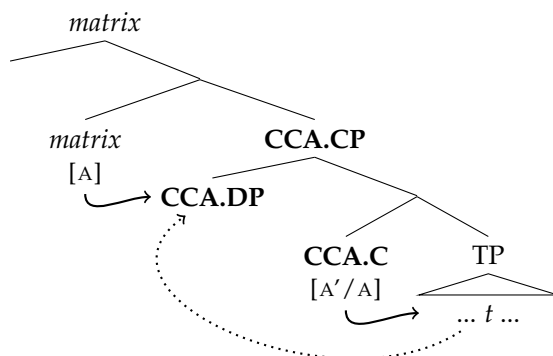
TABLE 6.9: The typology of CCA

In the next section, I will suggest that the correlations we see in table 6.9 are expected under a composite probe analysis of CCA.

6.5 An A'/A analysis for CCA

In this section, I present a composite probe analysis for HyRtO, HyRtS and LDA, along the lines of Wurmbrand, 2019 and Lohninger, Kovač, and Wurmbrand, 2022, based on the syntax developed in chapter 4. I propose that in all three instances of CCA (HyRtS, HyRtO and LDA), the embedded C head hosts an [A'/A] probe, which attracts an embedded DP to its specifier. From there, the DP becomes visible to a matrix ϕ -probe, which either establishes long-distance agreement or triggers subsequent movement into the matrix clause. The abstract structure is shown in (81).

(81) *Sketch of the A'/A analysis for CCA*



In the previous section, I discussed the empirical properties of CCA configurations, repeated in table 6.10 below. The table summarizes where in CCA we find uniform patterns (optionality of CCA, fully finite CP complement clause, embedded movement) and where there is cross-linguistic variation (quality of movement chain, A-minimality, information-structural effects, additional A'-movement). A composite probe analysis allows to account for both, uniformity and variation. I suggest that the variation we find is highly systematic and ties to two syntactic sources: i) whether the embedded movement chain is A' or A, which (combined with embedded VoiceP phasality) determines whether CCA is A-minimal and ii) whether a language allows for the composite probe to split up and probe separately, which renders the absence of information-structural effects and the allowance for additional A'-movement.

Language	CCA	op- tional	emb. CP	emb. mvt	mvt chain	A- min.	info- struct.	add. A'-mvt
<i>Braz. Port.</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Cantonese</i>	HyRtS	✓	✓	✓	A	✓	×	✓
<i>Mongolian</i>	HyRtO	✓	✓	✓	A	✓	×	✓
<i>Nez Perce</i>	HyRtO	✓	✓	✓	A	✓	?	?
<i>Romanian</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Turkish</i>	HyRtO	✓	✓	✓	A	✓	✓	×
<i>Innu-Aimûn</i>	LDA	✓	✓	✓	A'	×	✓	?
<i>Passam.</i>	LDA	✓	✓	✓	A'	×	✓	×
<i>Tsez</i>	LDA	✓	✓	✓	A'	×	✓	×

TABLE 6.10: The full typology of CCA

I start by briefly presenting related approaches to CCA in 6.5.1. The next subsection, 6.5.2, investigates where the [A'/A] probe on CCA.C stems from and how we can explain the optionality of CCA; that means why a CCA.CP can alternate freely with a regular CP. Subsection 6.5.3 suggests that [A'/A] in CCA may either trigger A-movement to SpecCP (as is the case in Hyperraising) or A'-movement to SpecCP (as is the case in LDA). In subsection 6.5.4, I address the variation in A-minimality effects we find. I account for different minimality profiles by the movement chain A'/A induces, combined the phasality of embedded VoiceP. Subsection 6.5.5 discusses the language-specific last-resort option for independent probing. The possibility for the [A'/A] probe to split up and agree with two separate goals accounts for the co-occurrence of CCA and additional A'-movement and the optional vs. obligatory presence of information-structural effects on the CCA.DP. I summarize the analysis in subsection 6.5.6. Eventually, in subsection 6.5.7, I briefly discuss how an [A'/A] analysis contrasts with other accounts such as phase-unlocking, case-deficiency or cyclic agreement and how a composite probe approach is able to make the most accurate description of the cross-linguistic patterns we find in CCA derivations.

6.5.1 Related accounts

There exist several related analyses suggesting that CCA is enabled via the presence of an [A] feature in CP (see section 6.5.7 for a discussion of different approaches such as phase unlocking, defective CPs, or cyclic agreement). Ademola-Adeoye, 2011 states that Hyperraising is mediated by an [A] feature inside CP, which ends

up there as the result of ϕ -feature under-inheritance; languages allowing Hyperraising do not inherit $[\phi]$ from C to T. A similar proposal can be found in Bondarenko, 2017 for Buryat HyRtO and Otott-Kovács, 2023 for HyRtO ins Kazakh; they suggest that CCA is mediated by a $[\phi]$ probe on C, which roots in under-inheritance. In some parts related, Hammerly, 2024 suggest that LDA is mediated by $[\phi]$ feature on C which is inherited down from matrix *v*. Alboiu and Hill, 2016 propose that Romanian HyRtO is mediated by joint probing of (embedded) C and T. If these two probe together for $[\text{top}]$ and $[\phi]$, they enable HyRtO—the hyperraised object is thereby both an *A'*-element (a topic) and an *A*-element (it moves to an argument position). Zyman, 2017; 2018; 2023 suggests for Janitzio P'urhepecha that the embedded C-head carries a $[D]$ -feature which enables HyRtO to pass through CP without losing its *A*-movement quality. Fong, 2019 and Gong, 2022 analyse Mongolian HyRtO via the presence of a $[\phi]$ -feature on C, with SpecCP serving as an *A*-landing-site for the CCA.DP and mediating long-distance *A*-movement. Wurmbrand, 2019, to my knowledge, is the first one to specifically suggest a composite probe analysis for CCA. She claims that the CCA.DP moves to an $[A'/A]$ SpecCP and from there can be targeted by a matrix *A*-dependency whilst simultaneously preserving the *A'*-character of the CP-domain. Her analysis is further refined in Lohninger, Kovač, and Wurmbrand, 2022, proposing three distinct kinds of $[A'/A]$ probes involved in CCA; conjunctive, dependent and independent $[A'/A]$ probes, which have different effects on *A*-minimality restrictions and information-structural effects.¹⁵ Mursell, 2020; 2021 brings forward a composite probe analysis for LDA (in a set of different languages), building on an extended embedded left periphery within which different heads may host $[A'/A]$ probes. He proposes that LDA is enabled by an $[A'/\phi]$ probe on embedded FocusP and/or TopicP, which mediates that the LDA.DP simultaneously exhibits information-structural effects and takes part in matrix ϕ -agreement.

In the analyses presented in Zyman, 2017; 2018; 2023; Fong, 2019; Wurmbrand, 2019; Mursell, 2020; 2021; Gong, 2022, the underlying assumption is that the $[A]$ feature on C exist additional to the $[\phi]$ -features on embedded T. This means, $[A]$ on C does not replace T as an agreement head and SpecCP does not become the canonical subject position (instead of SpecTP). Rather, the embedded clause involves a functional set of $[\phi]$ -features and the $[A]$ probe on C occurs additional to that. Support for this comes from the fact that the CCA.DP usually ϕ -agrees with both the embedded verb, as well as the matrix verb; in order to establish ϕ -agreement, the embedded verb needs to be equipped with its own set of $[\phi]$ -features. One implication of such an approach is that CCA is not triggered by lack of case-licensing of the CCA.DP in the embedded clause (as is assumed to be the case for English raising out of non-finite clauses). Rather, the hyperraised DP ϕ -agrees multiple times, and most likely receives case twice, once in the embedded clause and once in the matrix clause. In terms of dependent case, the CCA.DP first partakes in the embedded dependent case algorithm and then again, after movement, feeds into the matrix clause's case algorithm (see also Gong, 2022). Following (among others) Béjar and Massam, 1999; Merchant, 2006; Levin, 2014a; Chen, 2018, I assume that multiple case-assignment of one and the same nominal (and resulting case-overwriting or stacking) is in general not problematic. I will propose an account similar to the ones above, suggesting that

¹⁵In this thesis I detach from three different kinds of composite probes but suggest that all forms of CCA may be analyzed via a conjunctively probing $[A'/A]$ probe, with the language-specific option to probe independently. In Lohninger, Kovač, and Wurmbrand, 2022, the third kind of probe, dependent composite probes, were used to derive the combination of information-structural effects with strict *A*-minimality. In this thesis, I account for this correlation via the phasality of VoiceP, see section 6.5.4.

in CCA, a $[\phi]$ on C (as part of a composite probe) exists additional to the regular set of ϕ -features on embedded T.

6.5.2 [A'/A] on embedded C and the optionality of CCA

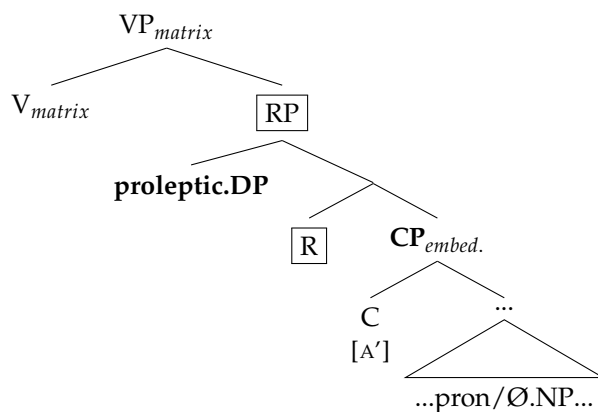
Following Lohninger, Kovač, and Wurmbrand, 2022, I suggest that the origin of the composite probe on C is the phrasal fusion of a regular embedded CP with a predicational/relational phrase RP (which is usually merged between matrix VP and embedded CP). A fused RP+CP alternates freely with a regular CP, which derives the optionality of CCA. The presence of [A'/A] in Hyperraising languages is thereby not derived via a parametric process of ϕ -under-inheritance or alike; it follows from a derivational fusion process that only affects a single head of the structure (C).

Relational Phrase (RP) The idea of a predicational/relational phrase RP between matrix VP and embedded CP originally stems from accounts to prolepsis, that is examples like (82).

(82) I believe of **Viola** [that **she** is a good swimmer]

A proleptic object (*Viola*) is base-generated somewhere outside of the embedded clause but semantically related to the content of the complement. Most existing approaches of prolepsis converge on the assumption that it involves a type of predication between the proleptic (matrix?) object and the embedded clause (see for example Takano, 2003; Landau, 2011; Salzmann, 2017). As an analysis, den Dikken, 2006; 2017 proposes that under certain conditions, a R(elator)P(phrase) may be merged between matrix VP and embedded CP (see also Bowers, 1993). In such a phrase, a head R head relates its specifier (the proleptic object) and its complement (the embedded CP) via predication (similarly to argument-introducing heads); SpecRP is therefore an A-position. That is, the head R can thematically license an argument (the proleptic object) and carries a [A] probe of some form. For now, I will refer to this [A] probe as $[\phi]$ ¹⁶ Semantically, RP constitutes a proposition (just like a regular CP complement does). In proleptic constructions like (82), RP and CP occur separately. RP introduces the proleptic object (*Viola*) and relates it to the embedded CP which is turned into a predicate via an operator or pronoun (co-indexed with the proleptic object). The structure is depicted in (83).

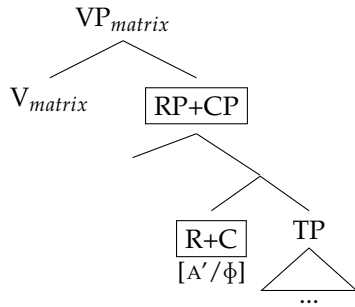
(83) *RP in proleptic constructions*



¹⁶I am aware that such an analysis might need further refinement. Potentially, [A] can also be taken as bare [EPP] feature.

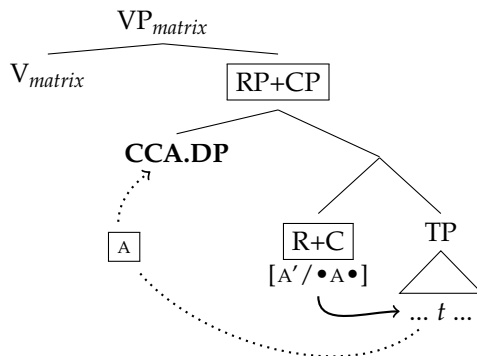
Fused RP+CP Following Lohninger, Kovač, and Wurmbrand, 2022, I suggest that what we observe in CCA is a fusion of RP with CP, deriving a joint phrase RP+CP. Whilst most language allow to insert RP between the matrix and embedded clause, I propose that only some languages allow to fuse RP and CP; thereby only some languages allow CCA. The head R+C combines the [A] properties of R with the [A'] properties of C, thereby constitutes a composite head, equipped with the probe [A'/A], shown in the structure below.

(84) *Fusion of RP and CP allows for CCA*

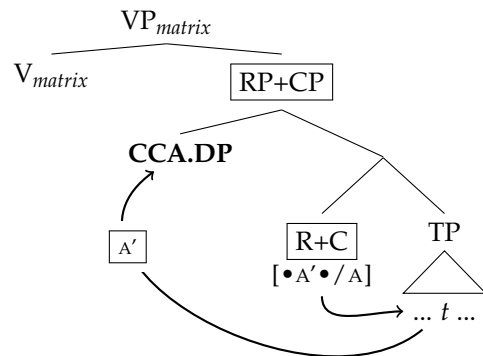


There are two options of how [A'/A] can be merged: as [A'/•A•], whereby it will attract A-movement to SpecCP, or as [•A'•/A], whereby it attracts A'-movement to SpecCP. The two options are depicted in the structures in (85).

(85) a) *Hyperraising*



b) *LDA*



Assuming that the allowance of CCA roots in the allowance of a language to fuse RP+CP accounts for several properties of CCA: first, whilst RP seems to be widely available across languages (many languages allow prolepsis), only a small set of languages allows for CCA (that is the option to fuse RP+CP).¹⁷ A fused RP+CP might be derivationally less economical, hence available in less languages. Next, the "unfused" RP constitutes a semantic proposition and can thereby combine with any proposition selecting matrix verb, just like a regular CP does (in terms of Wurmbrand and Lohninger, 2023, the *proposition* class of clausal complementation). This is evident from the distribution of prolepsis; it can occur with almost any propositional matrix predicate (see Salzmann, 2017). Contrary to bare RP, RP+CP must be selected

¹⁷Note that this implies that languages allowing CCA are a subset of languages allowing prolepsis. This is the case in many languages, but not all: as K.F.Yip pointed out to me, Cantonese does not exhibit a prolepsis structure whilst allowing Hyperraising. Hence, there might be languages in which only a bare CP and a fused RP+CP are available, not a separate RP.

by a specific subset of (propositional) matrix verbs and cannot just occur with any CP selecting verb; CCA is restricted to a subset of CP selecting verbs (usually perception verbs or verbs of knowledge). Last, CCA is optional: I suggest that this is the case because RP+CP can alternate freely with a regular CP complement. Both depict semantic propositions and thereby, any verb that can select for RP+CP can just as well select for a bare CP. Note that this is not real optionality: as soon as RP+CP are merged, CCA is forced. However, since all matrix verbs that combine with RP+CP can alternatively combine with a regular CP, the occurrence of CCA appears like optionality. The fusion of RP+CP might be caused by evidentiality: for a variety of CCA phenomena, a form of (direct or indirect) evidentiality is reported (Alboiu and Hill, 2016; Grishin, 2023; Hammerly, 2024; Lee and Yip, 2024). A CCA.DP often is interpreted as evidential, whilst in the non-CCA counterpart, the embedded subject (or predicate) does not need to root in direct evidence. Potentially, an evidential interpretation requires RP and CP to fuse into one, whilst a non-evidential interpretation prefers a regular CP complement or a proleptic construction. I leave open for future research how the semantics of evidentiality can be combined with the RP+CP syntax of CCA but refer the interested reader to the accounts mentioned above for related ideas. Last, note that in an RP+CP account, the embedded CP is fully phasal; it is neither a deficient or unlocked, nor does it lack the ability to case-license or ϕ -agree with its subject; it behaves like a regular finite CP. The only thing that enables CCA is the movement-inducing $[A'/A]$ probe on C, which results from CP being fused with a higher RP.

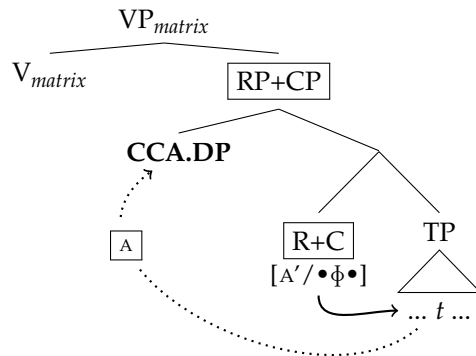
6.5.3 The movement chain in CCA

Across the literature on CCA, it is (more or less) agreed upon that Hyperraising is A-movement across a clause boundary whereas LDA is A'-movement feeding into an agreement relation. Under the composite probe approach brought forward in this thesis, both of these claims can be captured within a single analysis. Even if all instances of CCA involve a composite $[A'/A]$ probe, we might still find different movement chains: such where $[A'/A]$ induces A-movement (Hyperraising) and such where it induces A'-movement (LDA). I propose that in Hyperraising to object and subject constructions the composite probe is merged as $[A'/\bullet A\bullet]$, thereby A-moves the CCA.DP to SpecCP whereas in LDA configurations, it is merged as $[\bullet A'\bullet/A]$ and A'-moves it there. This account makes the following predictions: i) Hyperraising exhibits A-movement properties, such as a lack of reconstruction, and obviation of WCO. LDA exhibits A'-movement properties, such as reconstruction and induction of WCO (see also section 6.4.2). ii) Only in Hyperraising constructions the CCA.DP can A-move from embedded SpecCP to a matrix A-position without violating the BIM. In LDA, the CCA.DP cannot A-move into the matrix clause; if it has A'-moved to embedded SpecCP, subsequent matrix A-movement would violate the BIM. Last, iii) we expect different minimality restrictions: Hyperraising may only attract the embedded subject, since $[A'/A]$ on R+C can only see as far as SpecVoiceP, thereby only finds the subject. VoiceP in CCA configurations is a "regular" VoiceP without $[A'/A]$, thereby it has no way to A-move an embedded object into the reach of R+C (unless the embedded clause is a passive or the language has an independent strategy of A-moving the object, like A-scrambling). An A'-moved object to VoiceP cannot serve as a goal for C, as this would violate the BIM. Contrary, LDA is not restricted to a specific DP. This is the case because movement to SpecCP is A'-movement; thereby, an object that has initially been A'-moved to SpecVoiceP may feed into further A'-movement to SpecCP without violating the BIM.

Hyperraising: $[A'/A]$ and A-movement

In HyRtS and HyRtO constructions, the composite probe on R+C is merged as $[A'/\bullet\phi\bullet]$. Thereby, it triggers A-movement of the CCA.DP to SpecCP, from where the CCA.DP can undergo further A-movement into the matrix clause.¹⁸

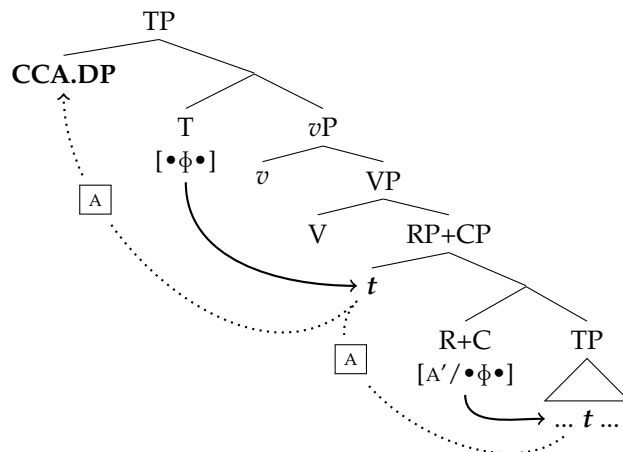
(86) *Hyperraising: $[A'/A]$ triggers A-movement*



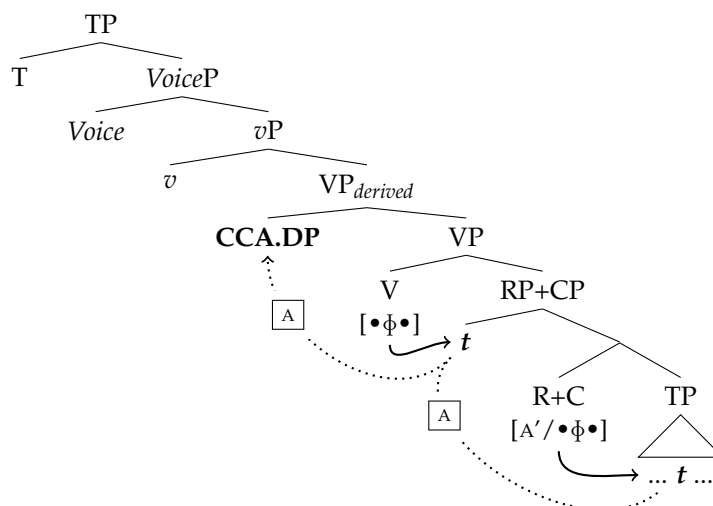
In HyRtS, the CCA.DP first A-moves to SpecRP+CP and then raises to the matrix subject position (SpecTP), attracted by $[\bullet\phi\bullet]$ on matrix T. Hyperraising to subject is restricted to unaccusative matrix verbs, just like instances of regular subject raising. Along the lines of Alexiadou, Anagnostopoulou, and Schäfer, 2006; Alexiadou and Doron, 2012; Bruening, 2013, I assume that unaccusative verbs do not project a VoiceP. I leave open whether they still depict a phase (Legate, 2003) or not. If not, T can reach directly through them and target the CCA.DP on SpecRP+CP; if yes, then v must involve a form of movement-mediating $[A]$ probe (note that this assumption is necessary not only in Hyperraising contexts, but also in regular contexts, otherwise the internal argument of an unaccusative would never be able to move to SpecTP).¹⁹ Thereby, all movement chains (from the embedded base-position to SpecCP and from SpecCP to matrix SpecTP) are A-chains, thus the BIM is never violated. The structure is depicted in (87).

¹⁸Note that there is no overt ϕ -agreement with the R+C head. I assume that this is the case since CCA language do not per default carry a $[\phi]$ on C. Thus they might simply lack the morphology to establish ϕ -agreement on C. A caveat of this assumption is that Nez Perce, in principle, allows complementizer agreement, but not agree with the hyperraised subject. Thus, it is in some way surprising that CCA cannot trigger agreement on C.

¹⁹Nothing here hinges on the phasality of vP ; we can derive the same outcome in both ways; if we assume that unaccusatives are phasal or not.

(87) *Hyperraising to subject*

In Hyperraising to object, almost the same happens: the CCA.DP is attracted by $[A'/\bullet\phi\bullet]$ on R+C and A-moves to SpecCP. From there, it can undergo A-movement to a (derived) matrix object position, where it partakes in the matrix dependent case algorithm; it receives accusative, just as a base-generated theme of the matrix verb would. I follow Alboiu and Hill, 2016 (cf. Deal, 2017a; Zyman, 2018) and suggest that a derived object position (hosting the hyperraised subject) is merged between matrix vP and VP; in the structure below I label it VP_{derived} . The exact position is irrelevant for my analysis; what is crucial is that it is i) an A-position, visible for dependent case-assignment and ii) that it is merged below VoiceP, thus below the matrix subject. Further, note that movement into the matrix clause is not obligatorily required; Fong, 2019 and Gong, 2022 suggest that in Mongolian, the CCA.DP may optionally remain in the embedded SpecCP and receive ACC there or move to the matrix clause. Similarly, Şener, 2008; 2011 proposes that in Turkish, the CCA.DP remains in embedded SpecCP and does not move to matrix object position. Under my analysis, nothing hinges on whether the CCA.DP remains in SpecCP or moves to matrix VP. Both are A-positions and the matrix case algorithm can operate on either one of them. The structure is depicted in (88).

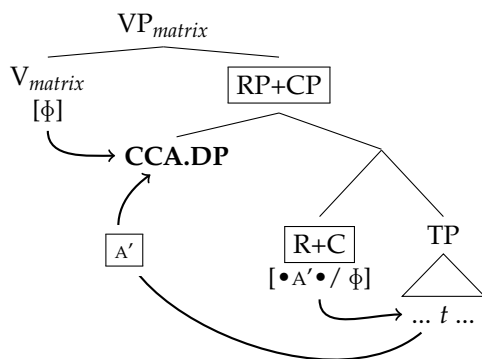
(88) *Hyperraising to object*

In both cases, HyRtS and HyRtO, I suggest that the CCA.DP is case-assigned twice; once via the dependent case algorithm of the embedded clause and once via dependent case of the matrix clause. The CCA.DP will express the last case-value it received (following Béjar and Massam, 1999), that is the matrix one (in the languages under discussion, this is accusative).

LDA: [A'/A] and A'-movement

In long-distance agreement, the composite probe on R+C is merged as [$\bullet$ A' $\bullet$ / ϕ]. Thereby, it triggers A'-movement of the CCA.DP to SpecRP+CP, from where it becomes visible for matrix ϕ -agreement. Movement of the CCA.DP to SpecRP+CP may be overt or covert (as also stated in Bruening, 2001b; 2001; Grishin, 2023 for Passamaquoddy, Branigan and MacKenzie, 2002 for Innu-Aimûn and Polinsky and Potsdam, 2001 for Tsez). Different to Hyperraising, the CCA.DP cannot undergo further A-movement into the matrix clause, as this would violate the BIM (note that it can undergo matrix A'-movement—this is always an available option).

(89) LDA: [A'/A] triggers A'-movement



One might ask why we need an [A'/A] probe in LDA configurations at all. That is, why LDA cannot simply be achieved by a regular [A'] probe on C, attracting A'-movement to SpecCP, from where the LDA.DP is then local enough to the matrix verb to serve as a goal for ϕ -agreement (such an analysis is proposed in Bruening, 2001b; Polinsky and Potsdam, 2001; Grishin, 2023). I propose that [ϕ] on R+C has the following effect: first, it makes sure that R+C only finds a ϕ -goal (a nominal) and not any phrase. Second, it mediates ϕ -agreement with a matrix ϕ -probe. This can be captured in two ways: either, [ϕ] on R+C operates as a form of cyclic agreement and mediates between the matrix [ϕ] probe and the CCA.DP (similar to what is suggested in Butt, 1995; Legate, 2005; Lahne, 2008; Preminger, 2009; Mursell, 2021). In this case, we could assume that ϕ is responsible for agreement whilst [A'] attracts movement of the CCA.DP for independent reasons: as mentioned above, the LDA.DP obligatorily is a topic, focus or wh-element. Thus, potentially, it needs to move to SpecCP to be interpreted, whilst at the same time, ϕ does its independent job of mediating agreement. Another way of capturing [ϕ]'s duty is under the framework presented in Obata and Epstein, 2011 (even though I do not fully adopt their approach in general); they suggest that only the goal's features that were involved in agreement at the landing site are accessible to a higher agreement operation. In their understanding, this means that if the LDA.DP was triggered by a bare [A'] probe, its [ϕ]-features would not be accessible to a higher ϕ -probe anymore. Thereby, we

could assume that the presence of $[\phi]$ on C keeps the LDA.DP "active" for further agreement. Last, $[\phi]$ regulates the optionality of LDA: as we saw in section 6.4, LDA is, just like all CCA configurations, optional and always alternates with a non-LDA version of the clause. A non-LDA CP, on the surface, looks exactly the same as an LDA CP. If LDA is derived purely by locality (the LDA.DP is close enough to matrix verb for agreement), then this optionality must be tied to the matrix verb; it should be able to freely choose whether it agrees with the DP in SpecCP or with the whole CP clause. This is difficult to model in our understanding of agreement, although we could assume that the whole CP projection and its specifier are equidistant and the matrix probe can thereby freely choose what to agree with. If, however, we ascribe LDA to the presence of an $[A'/\phi]$ probe on R+C, alternating with a bare $[A']$ on a regular C head, we may derive the optionality from a different featural equipment of the embedded CP: if it comes as fused RP+CP, it will carry $[A'/A]$ and allow LDA, whereas if the embedded clause is a bare CP, it will not carry $[A'/A]$ and thereby cannot mediate LDA into its left edge. Fourth, an $[A'/A]$ analysis explains why LDA is not available in all languages that allow object agreement. If it would suffice for a matrix $[\phi]$ -probe that the an embedded A'-DP is simply close enough (on embedded SpecCP) to establish agreement, why is LDA then only possible in some but not all languages? Ascribing it to the presence of a composite probe could explain the difference between languages that allow LDA and those which do not (but show local object agreement).

6.5.4 A-minimality differences

As we saw in section 6.4, CCA constructions differ in whether they are restricted to the embedded subject or not. In this section, I account for this difference via the quality of the embedded movement chain, combined with the phasality of embedded VoiceP. In HyRtS and HyRtO configurations, Hyperraising is usually restricted to the highest embedded nominal (the subject). An embedded object is usually prohibited from undergoing Hyperraising across the embedded subject. Two examples are repeated below; (90a) for Romanian HyRtO and in (90b) for Brazilian Portuguese HyRtS.

- (90) a. **Am auzit-o pe Mioara* [*c-a invitat Gelu t*].
 have.1SG heard-her DOM Mioara [C-has invited Gelu t]
 Int.: 'I heard from Mioara that Gelu invited her.'
Romanian (Alboiu and Hill, 2016: 268)
- b. **Alguém parece* [*que a aluna viu t*]
 someone seem.3SG [C the student saw t]
 Int.: 'It seems that the student saw someone.'
Brazilian Portuguese (Kobayashi, 2020: 6)

Contrary to that, LDA constructions are not A-minimal: they may target any embedded argument. (91) depicts LDA in Passamaquoddy with an embedded object (*people*).

- (91) *N-wewitaham-a-k* [*ma=te ø-nomiy-a-wi-yik*
 1-remember.TA-3OBJ-PROX.PL [NEG=EMPH 3-see.TA-3OBJ-NEG-PROX.PL
mawsuwinu-wok Kehlis-k]
 person.PROX.PL Calais-LOC]
 'I remember that I didn't see **people** in Calais.'
Passamaquoddy (Bruening, 2001b: 259)

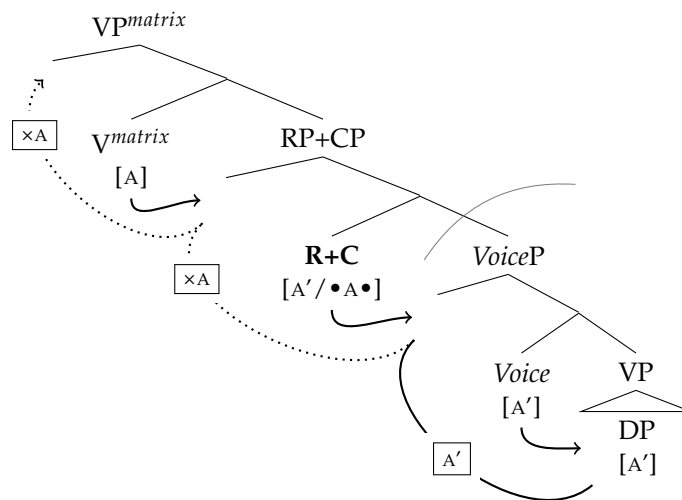
In chapter 4, I suggested that $[A'/A]$ probes are not sensitive to defective intervention and thereby not A-minimal; they can skip an A-goal in their way. Under this claim, the A-minimality in Hyperraising is surprising. Further, if LDA and Hyperraising involve the same syntax (an $[A'/A]$ probe on embedded R+C), why are there minimality distinctions between the two? I propose that the answer to both these questions lies in the phasality of VoiceP and the different movement chains (A and A') involved in Hyperraising versus LDA. In short, the subject restriction in Hyperraising results from the fact that i) $[A'/A]$ on R+C triggers A-movement and ii) R+C can only probe as far as SpecVoiceP, thereby only see the subject (= PIC). A lower argument (an object) is only accessible to R+C if it has been moved out of VoiceP. Object movement out of VoiceP may happen in three ways: via (intermediate) A'-movement, via embedded passivization or via an operation like A-scrambling. Both embedded passives and A-scrambling are attested options to hyperraise an embedded object. The first option, intermediate A'-movement to SpecVoiceP, however, cannot feed Hyperraising: if the object A'-moves to SpecVoiceP, the BIM rules out that it undergoes subsequent A-movement (to SpecRP+CP and further). If a language does not allow A-scrambling of an object across a subject and the embedded verb is not a passive, Hyperraising is restricted to what is merged above Voice: the subject. Contrary to Hyperraising, the $[A'/A]$ probe in LDA triggers A'-movement: thereby an object can A'-move to SpecVoiceP and from there feed further movement to SpecRP+CP without violating the BIM. Hence, LDA can target any embedded argument.

Hyperraising: A-minimality

In Hyperraising (both HyRtS and HyRtO), $[A'/A]$ on R+C induces A-movement. It searches for a fitting goal but, given the phasality of VoiceP, may only look as far as SpecVoiceP. There are two options for what can happen next: in the optimal scenario, the external argument is equipped with the relevant features ($[A']$ and $[A]$), thereby serves as a match and enters an agreement relation with $[A'/A]$ on R+C. In such cases, we get a successful Hyperraising derivation: the A'/A goal moves to SpecRP+CP, becomes visible for a matrix probe and undergoes A-movement into the matrix clause.

Option two is that the external argument does not carry the relevant set of features, i.e. it lacks an $[A']$ feature. In such cases, the derivation either fails or the $[A'/A]$ probe splits up and probes independently for two separate goals (see section 6.5.5 for an elaboration of this option). Third, it could be the case that Voice A'-moved an internal argument to its specifier—such operations are always possible, since regular A'-movement may always proceed (successive-cyclically) out of VoiceP. If an (intermediate) $[A']$ probe A'-moved an object to SpecVoiceP (e.g. via wh-movement), this object depicts a potential goal for R+C: it would carry both $[A']$ and $[A]$ features and would be located above Voice. However, since the $[A'/A]$ probe on R+C induces A-movement, it cannot attract an initially A'-moved object, as this would violate the BIM. Thereby, $[A'/A]$ on R+C attracting an object thus does not fail because of A-minimality restrictions of the $[A'/A]$ probe but is ruled out independently by BIM. The structure is depicted in structure (92).

- (92)
- A'-movement to SpecVoiceP cannot feed subsequent Hyperraising*



This predicts that if a language has a way to A-move an object out of a transitive VoiceP (e.g. via A-scrambling), such an object should feed Hyperraising; that is, it should serve as a goal for [A'/A] on R+C without violating the BIM. This prediction is borne out: in Nez Perce Hyperraising to object, an embedded object (*children*) can A-scramble out of VoiceP and thereby become the target of [A'/A] on R+C. We see this in (93a) where the A-scrambled *children* may hyperraise to object as long as it has first been scrambled out of VoiceP (in Nez Perce, visible from word order). If it remains in its base-position inside VP, as in (93b), it cannot be hyperraised (i.e. it cannot receive matrix ACC).

- (93)
- Nez Perce*
- (Deal, 2017a: 6)

- a. 'Aayat-onm hi-nees-nek-se [watiisx mamay'as-na
 woman-ERG 3.SBJ-O.PL-think-IPFV [1.day.away children-ACC
 Angel-nim hi-naas-wapayata-ya].
 Angel-ERG 3.SBJ-O.PL-help-PERF]
 'The woman thinks Angel helped the children yesterday.'
- b. *'Taamsas-nim hi-nees-nek-se [Angel-nim hi-naas-wapayata-ya
 Taamsas-ERG 3.SBJ-O.PL-think-IPFV [Angel-ERG 3.SBJ-O.PL-help-PERF
 mamay'as-na].
 children-ACC]
 'Taamsas thinks Angel helped the children.'

A similar thing is possible in Mongolian (Fong, 2019): as shown in (94a), the object *house* in its base-position cannot undergo hyperraising. If, however, it is A-scrambled across the subject (*Dulmaa*), it may undergo further HyRtO, shown in (94b).

- (94)
- Mongolian*
- (Fong, 2019: 8)

- a. Odgerel [Dulmaa-d shine baishin(*-g) baigaa gej] khel-sen.
 Odgerel [Dulmaa-DAT new house(*-ACC) COP.PRES C] say-PST
 'Odgerel said that Dulmaa has a new house.'
- b. Odgerel shine baishin(-g) [t Dulmaa-d t baigaa gej] khel-sen.
 Odgerel new house(-ACC) [t Dulmaa-DAT t COP.PRES C] say-PST
 'Odgerel said that Dulmaa has a new house.'

Similarly, in Brazilian Portuguese, a DP embedded in a possessor phrase may undergo HyRtS, as long as it has A-moved out of the possessor phrase first (see Rodrigues, 2010; Dias, 2022).²⁰

- (95) *O relógio parece [que t quebrou os ponteiros]*
 the watch seems [C t punctured the hands]
 'As for the watch, it seems that its hands broke.'

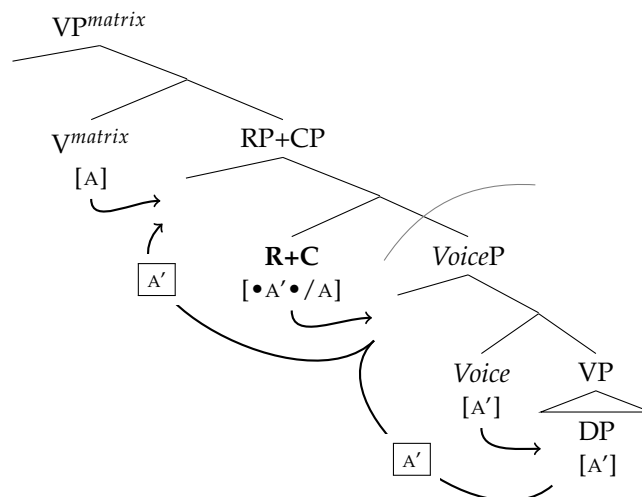
Brazilian Portuguese (Dias, 2022: 68)

In all three cases, an initial A-movement step raises the object into the search domain of R+C. I conclude that i) the A-minimality restrictions we find in Hyperraising constructions are not true subject restrictions but rather locality restrictions and ii) they do not necessarily show that the $[A'/A]$ probe on R+C is restricted to the closest DP (and thereby sensitive to defective intervention). Under my analysis, the A-minimality restrictions on Hyperraising follow from the assumption that i) $[A'/A]$ probes may trigger A-movement and are thereby sensitive to the BIM (which also holds for successive-cyclic movement steps) and ii) in CCA, an $[A'/A]$ probe is not present on all phasal heads, but only on embedded C.

LDA: no A-minimality

The lack of A-minimality restrictions in LDA follows straightforwardly: the difference between LDA and Hyperraising is that in LDA, the $[A'/A]$ probe on R+C triggers A'-movement to SpecRP+CP. Again, $[A'/A]$ on R+C may only search as far as SpecVoiceP. However, if an object has been (successive-cyclically) A'-moved to SpecVoiceP, it can feed further A'-movement to SpecCP: both movement chains are A' and thereby, the BIM is not violated. Thus, any embedded argument may undergo LDA as long as it carries the fitting $[A']$ and $[A]$ features. The structure is depicted in (96).

- (96) *A'-movement to SpecVoiceP can feed further LDA*



To conclude; in this section I proposed that the minimality/subject restrictions in some constructions (Hyperraising) are not conditioned by the composite probe in

²⁰Note that for this example, it is not entirely evident whether we are looking at a hanging topic configuration or at true HyRtS.

R+C being sensitive to intervening subjects. Rather, they follow from the the different movement chains invoked in Hyperraising versus LDA, combined with VoiceP phasality and the (independent) presence of BIM on all movement chains (terminal or intermediate).

6.5.5 Independent probing: information-structural effects and additional A'-movement

In chapter 4, I proposed that composite probes may, as a language-specific last-resort solution, split up when no fully fitting goal is found.²¹ If they split up, they can agree with and attract movement of two independent goals. I proposed that there is a hierarchy of probe splitting, in which languages may allow different cut-off points. A composite probe optimally tries to probe together but may, when no fully fitting goal is available, allow its features to split up and agree with two separate goals. Last, if no two goals are available, some languages allow for one probe to fail in order to salvage the derivation. The probe splitting hierarchy is repeated in (97).

(97) *Probe together » split » fail*

- a. *Probe together*: [A' / A] tries to probe for a full match
- b. *Split*: If no such goal is found, [A' / A] splits up and agrees with two different goals
- c. *Fail*: If only one (partially fitting) goal can be found, one probe ([A'] or [A]) can fail

I propose that in CCA, we can observe *split* in cases where long-distance A'-movement co-occurs with CCA and *fail* in cases where a non information-structurally marked DP undergoes CCA. As already noted in section 6.4.2, the ability to A'-move an additional element out of a CCA.CP correlates with whether a language requires the CCA.DP to be information-structurally marked: languages which do not require information-structural effects on the CCA.DP allow additional A'-movement whereas such which require the CCA.DP to involve information-structural effects prohibit it. The data is summarized in table 6.11.

Language	Obligatory info-struct.	Add. A'-mvt	Type of CCA
<i>Innu-Aimûn</i>	✓	?	LDA
<i>Passamaquoddy</i>	✓	×	LDA
<i>Tsez</i>	✓	×	LDA
<i>Romanian</i>	✓	×	HyRtO
<i>Turkish</i>	✓	×	HyRtO
<i>Braz. Portuguese</i>	×	✓	HyRtS
<i>Cantonese</i>	×	✓	HyRtS
<i>Mongolian</i>	×	✓	HyRtO

TABLE 6.11: Information-structural effects and additional A'-movement, adapted from Lohninger and Yip, 2023

As an example: Romanian HyRtO obligatorily requires the CCA.DP to be topical (definitie/specific), as shown in (98a), where an indefinite quantifier cannot be

²¹This part developed in joint work with Ka Fai Yip has been published in Lohninger and Yip, 2023. I am extremely thankful to Ka Fai for the Cantonese data, his valuable help and insightful feedback.

hyperraised. Simultaneously, Romanian does not allow long-distance A'-movement to co-occur with CCA out of the same embedded clause, see (98b).

- (98) *Romanian*: ✓ *info-struct. effects*, × *additional A'-movement*
- a. **Am mirosit pe cineva [că t ne minte].*
 have.1 smelled DOM someone [C t 1PL.DAT lies]
 Int.: 'I/we suspected that someone was lying to us.'
 (Alboiu and Hill, 2016: 276)
- b. **Ce l-ai simțit pe Ion [că t nu vrea t].*
 what him-have.2SG felt DOM Ion [C t not wants t]
 Int.: 'What did you feel that Ion did not want?'
 (Alboiu and Hill, 2016: 277)

Mongolian HyRtO exhibits the exact counter-image: it does not obligatorily require the CCA.DP to be information-structurally marked. The CCA.DP may be a non-topicalizable element, such as a non-referential NPI, shown (99a). Simultaneously, Mongolian allows long-distance A'-movement to co-occur with CCA, shown in (99b), where long-distance topicalization of *buuz* co-incides with HyRtO of *Dorj*.

- (99) *Mongolian*: × *info-struct. effects*, ✓ *additional A'-movement*
- a. *Nara khen-iig ch [t iree-güi gej] khel-sen.*
 Nara who-ACC CH [t come.PST-NEG C] say-PST
 'Nara said that nobody came.'
 (Fong, 2019: 8)
- b. *Buuz-iig bol Nara Dorj(-iig) [t t id-sen gej] khel-sen*
 buuz-ACC TOP Nara.NOM Dorj-ACC [t t eat-PST C] say-PST
 'The buuz, Nara said that Dorj ate.'
 (Fong, 2019: 28)

This correlations holds in all languages under investigation (for Innu-Aimûn and Nez Perce I do not have the relevant data; in Innu-Aimûn, the CCA.DP exhibits information-structural effects but I do not know whether additional A'-movement may co-occur with CCA. Similarly, in Nez Perce, I do not have data on either property.) I propose that those languages which may lack information-structural effects on the CCA.DP and allow for additional A'-movement (Brazilian Portuguese, Cantonese and Mongolian) allow the composite probe on R+C to split up. If it splits up, it may either attract two independent goals or the [A'] part fails. Contrary to that, the languages which require information-structural effects and do not allow additional A'-movement (Passamaquoddy, Tsez, Romanian and Turkish), do not allow the composite probe to split up. Note that I take independent probing to be a (language-specific) last-resort option to salvage a derivation when no fully fitting goal is found, and not as a general mechanism of probing.

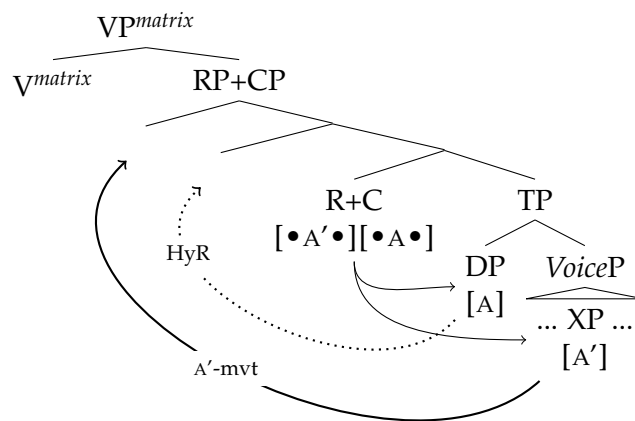
Brazilian Portuguese, Cantonese and Mongolian allow for all three options on the splitting hierarchy (probe together » split » fail): optimally, [A'/A] on R+C finds a goal that carries both [A'] and [A] features. If no such goal is not available, [A'] and [A] may split up and attract two independent goals.²²²³ If no two goals can be

²²In independent probing, the [A'] probe needs to be merged as [$\bullet$ A' $\bullet$], even though it was not when part of the composite probe. I suggest that there are two options of this; either, [A'] is always merged as [$\bullet$ A' $\bullet$] but is "overruled" by [$\bullet$ A' $\bullet$] in composite probing. Alternatively, it may gain an [EPP] sub-feature together with the ability to probe on its own.

²³Note that in Mongolian, it seems to be the case that the [A'/A] probe prefers to probe independently; a topicalized DP, for example, may not undergo CCA (Fong, 2019; Gong, 2022. Scott, 2021b suggests that independent probing may be a default option for languages and not a last-resort strategy. I leave open for future research what theory applies best for Mongolian HyRtO and how we may implement it in our understanding of composite probes and independent probing.

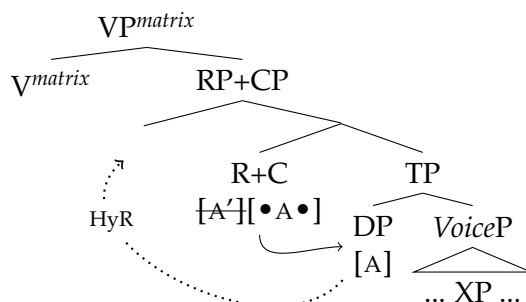
found, the [A'] part of the probe may fail. Probe together applies when the CCA.DP carries both an [A'] and an [A] feature (that is, involves information-structural effects). We saw a variety of these examples and structures already, so let us start with option two, independent probing for two separate goals. When no fully fitting goal is found, the composite probe splits up; if this happens, the [A] probe mediates Hyperraising, whereas the [A'] probe attracts an additional goal. Since both elements are probed for by R+C, they both move to (multiple) specifiers of R+C. I assume that a single head may, under such circumstances, project multiple specifiers (Richards, 1997; van Urk and Richards, 2015). These specifiers are equidistant for further operations (Rudin, 1988; Ura, 1994; McGinnis, 1998; Chomsky, 2001) and both depict the phase-edge; thus both elements may undergo further movement to the higher clause. The A-moved element then undergoes further Hyperraising to a matrix argument position whereas the A'-moved element undergoes long distance A'-extraction. The structure (of the embedded clause) is depicted in (100).

(100) *Independent probing of [A'] and [A]; agreement with two goals*



When no two fitting goals can be found, [A'] can fail. In this case, the [A] probe on R+C alone mediates CCA, whereas the [A'] probe remains unvalued. This renders examples in which the CCA.DP lacks information-structural effects. Along the lines of Preminger, 2009; 2011; van Urk, 2015, the failure of [A'] does not automatically lead to a crash of the whole derivation.

(101) *Independent probing of [A'] and [A]; [A'] fails*



Let us look at Cantonese HyRtS to demonstrate the three options of independent

probing. First, [*A'/A*] on *C* optimally probes for a fully fitting goal, rendering Hyperraising with an information-structurally marked element. This is visible in example (102), where the focused DP *big company* undergoes HyRtS. [*A'*] and [*A*] on *R+C* probe together; the [*A'*] feature is responsible for focalization, whilst the [*A*] features is responsible for *A*-movement.

- (102) *Lin taaigunsi tengman* [*gamnin t dou m-paai faahung*]
 even big.company hear [this.year *t* also not-distribute bonus]
 'It is heard that even big companies did not distribute bonuses this year.'
Cantonese (Lohninger and Yip, 2023: 8)

If no fully fitting goal is available, the [*A'/A*] probe splits up and probes with two independent goals. Note that, given what we heard about minimality and VoiceP phasality in section 6.5.4, this is the case as soon as the subject does not carry both an [*A'*] and an [*A*] feature (and there is no way to *A*-move the object to SpecVoiceP). In independent probing, the [*A*] part mediates Hyperraising whereas the [*A'*] part triggers additional focalization (103a), topicalization (103b) or relativization (103c) of an embedded element.

- (103) *Cantonese* (Lohninger and Yip, 2023: 6)
- a. *Lin faahung gaan gungsi taipaa* [*t dou m-wui paai t*].
 even bonus CL company seem.fear [*t* also not-will distribute *t*]
 'It seems that the company will not even distribute the bonus.'
Focalisation + HyRtS
- b. *Gam-do-ceot hei, Aaming gamgok* [(*waa*) *t dou m-zungji tai t*].
 that.many.CL film Ming feel.like [*C t* all not-like watch *t*]
 'All these many films, it is felt that Ming doesn't like to watch.'
Topicalisation + HyRtS
- c. [*Go fung gamgok* [*waa t wui ceoilam t*]] *ge syu*.
 [CL wind feel.like [*C t* will blow.down *t*]] MOD *tree*
 'The tree which it is felt like the wind will blow down.'
Relativisation + HyRtS

Note that in all three examples, the focalized, topicalized or relativized element could not serve as *A'/A* goal for *R+C*: it is always the object, hence embedded below VoiceP and inaccessible to *C+R*. It only becomes visible to *R+C* after it (successive-cyclically) *A'*-moved to SpecVoiceP. After that, it cannot feed into HyRtS, as this would violate the BIM (see section 6.5.4). Last, if there is only an [*A*] goal accessible, but no [*A'*] goal, the [*A'*] part of the composite probe fails; in such cases, the [*A*] part alone mediates Hyperraising. This renders a configuration like (104), where a non information-structurally marked DP (the quantified DP *many people* which can neither be topicalized nor focalized) undergoes CCA whilst no additional *A'*-movement occurs.

- (104) *Houdo jan gamgok* [*waa t wui lai*]
 many person feel.like [*C t* will come]
 'It is felt that many people will come.'
Cantonese (Lee and Yip, 2024: 18)

One prediction an independent probing account makes is that *A'*-movement cannot co-occur with CCA as soon as the CCA.DP is information-structurally marked. When the CCA.DP is a topic or focus, this means that [*A'/A*] on *R+C* has probed together, and attracted a fully fitting *A'/A* goal. Hence, [*A'*] is already "used up" in

the CCA process and cannot attract an independent goal. This prediction is borne out: in Cantonese (105), the focalized element *big companies* was hyperraised by conjoined [A'/A]. Thereby, additional A'-movement (relativization of *bonuses*) out of the same embedded clause becomes ungrammatical. Note that the hyperraised DP strands the focus marker *dou* in the embedded clause; this shows that focalization happened already in the complement and not subsequently after hyperraising in the matrix clause.

- (105) **Di* [*Lin taaigungsi tengman* [*gamnin t dou m-pai t*]]
 CL.PL [**even big.company** hear [this.year *t* also not-distribute *t*]]
ge faahung
 MOD bonus
 Int.: 'The bonuses *x* such that it is heard that even big companies did not
 distribute *x* this year.'
Cantonese (Lohninger and Yip, 2023: 6)

To conclude, I argued that the correlation between obligatory information-structural marking of the CCA.DP and the (dis-)allowance for additional A'-movement in CCA is a result of a language's ability to allow independent probing. If a language permits its composite probe to split up, it will allow for CCA to co-occur with A'-movement (*split*) as well as CCA with DPs that are not information-structurally marked (*fail*). On the other hand, if a language does not allow the composite probe to split up, it will require the CCA.DP to always be information-structurally marked and cannot establish additional A'-movement.

6.5.6 Summary of the analysis

I presented a composite probe analysis for CCA configurations in which [A'/A] on embedded R+C mediates HyRtS, HyRtO and LDA. The analysis is based on a line of preceding approaches which tie CCA to the presence of an [A] feature (of some form) on the embedded C head (Ademola-Adeoye, 2011; Bondarenko, 2017; Zyman, 2017; 2018; Fong, 2019; Wurmbrand, 2019; Mursell, 2020; 2021; Gong, 2022; Lohninger, Kovač, and Wurmbrand, 2022; Otott-Kovács, 2023; Hammerly, 2024). Along the lines of Lohninger, Kovač, and Wurmbrand, 2022, I suggested that [A'/A] on C stems from phrasal fusion of CP and a higher Relator Phrase RP. Not all languages allow for RP and CP to fuse into a conjoined phrase RP+CP, thereby CCA is restricted to some languages. RP+CP is selected for by a certain subset of propositional predicates (usually perception predicates), and alternates freely with regular CP complement clauses (as both CP and RP+CP are semantic propositions). The R+C head, combines an [A] probe (from RP) and an [A'] probe (from CP), thereby exhibits a composite probe. This composite probe allows to mediate A-dependencies and A-movement across CP (CCA). In Hyperraising configurations, [A'/A] on C triggers A-movement to SpecRP+CP, whereas in LDA, it triggers A'-movement. The two different movement chains have a direct effect on minimality differences and the possibility for subsequent matrix A-movement. If [A'/A] triggers A-movement (Hyperraising), embedded movement may feed into matrix A-movement but cannot be fed by initial A'-movement (e.g. an object that has A'-moved to SpecVoiceP). This restricts most instances of Hyperraising to the embedded subject (unless a language allows for an independent strategy to A-move the embedded object out of VoiceP). If [A'/A] triggers A'-movement (LDA), this movement cannot feed into matrix A-movement but can be fed by an initially A'-moved element; an embedded object can first A'-move to SpecVoiceP and from there feed into LDA. Thereby,

LDA is not restricted to the embedded subject. Further, I investigated an empirical correlation between (obligatory) information-structural effects on CCA.DP and the (dis)allowance for long-distance A'-movement to proceed out of a CCA.CP: only such languages which do not obligatorily require the CCA.DP to be information-structurally marked allow additional A'-movement. Based on Lohninger and Yip, 2023, I tie this correlation to the language-specific option for independent probing: if no fully fitting goal is found, some languages allow the [A'/A] probe to split up and agree with/attract two separate goals. Thereby, these languages allow i) CCA to co-occur with additional A'-movement and ii) for a CCA.DP without [A'] features (that is, lacking information-structural effects).

I will now conclude this section by briefly discussing alternative accounts to CCA, suggesting that a composite probe approach accounts best for the typological variation we find in CCA configurations.

6.5.7 Other accounts to CCA

I brought forward a composite probe analysis for CCA, in which both HyR and LDA proceed through the CP left edge of an embedded clause. I will now briefly discuss other approaches to CCA and why I think a composite probe analysis makes the best predictions based on the empirical landscape of CCA configurations. For Hyperraising, the two main approaches alternating with an RP+CP phase-edge account are phase unlocking or deactivation (where the phasality of embedded CP is abolished under certain circumstances, thereby allowing movement out of it) and defective CP/TP accounts (where the embedded clause is unable to case-license its subject, thereby forcing movement to the matrix clause); for a thorough overview see also Zyman, 2023. Whilst both kinds of accounts make valid predictions, their main weakness is to account for the optionality of CCA. If CCA is ascribed to a form of defectiveness of the embedded clause (either phase-wise or case-wise), why does such a clause alternate with a non-defective CP complement, the syntax and morphology of which look exactly the same? Alternative accounts for LDA are primarily such which assume that the LDA.DP moves to the matrix clause and such which assume cyclic agreement; see also Bhatt and Keine, 2017 for an overview. Again, for both, the optionality of LDA is the most difficult aspect to account for.

Alternative accounts to Hyperraising

Phase unlocking/ deactivation Phase unlocking/ deactivation accounts can be found in Nunes, 2008; Deal, 2017a; Halpert, 2012; 2019; Halpert and Zeller, 2015 and Lee and Yip, 2024 and propose that CCA becomes possible when the embedded CP loses its status as a phase. Thereby, a matrix probe may attract A-movement of an embedded element without violating the PIC or BIM. These accounts often build on a form of *phase unlocking* (see also Richards, 1998; Rackowski and Richards, 2005; Halpert, 2012 and van Urk and Richards, 2015). The idea of phase unlocking is that CP phasality can be canceled under agreement: if a matrix probe agrees with the whole embedded CP, the phasal status of CP is "unlocked". If unlocked, CP becomes permeable for agreement into it and A-movement out of it. For CCA, this means that the matrix verb agrees with the whole CP (in Halpert, 2019 via a [ϕ]-feature, in Lee and Yip, 2024 via an evidential feature [Ev]) and thereby unlocks it. As an effect, A-movement may proceed out of CP without an intermediate step at SpecCP. While unlocking/ deactivation accounts are supported by the fact that there is only few empirical evidence for the CCA.DP to make a stopover at SpecCP, and

for the fact that CCA.CPs are usually selected by a very limited set of matrix predicate, they also come with some disadvantages. First, as pointed out by Deal, 2017a and Wurmbrand, 2019, CCA.CPs are not in general permeable for A-movement and ϕ -agreement. They only allow for one specific operation, i.e. CCA, to proceed out of them. For example, Wurmbrand, 2019 convincingly shows that in Japanese, the CCA.CP is transparent for Hyperraising to object, but remains opaque for A-scrambling. Similarly, Deal, 2017a shows that CCA.CPs in Nez Perce are not permeable for ϕ -agreement in general: they prohibit, for example, complementizer agreement with a matrix element. Under phase-unlocking, it is usually assumed that the same probe which unlocked the phase also extracts the embedded DP (in a second cycle of probing). In some way, it is however still unexpected, that the unlocked CP does not become permeable for any other A-operation. Under an RP+CP account, both facts can be captured: [A'/A] on C may mediate movement of one element out of CP and does not in general resolve the phasality of CP. The lack of complementizer agreement may be accounted for by the fact that the ϕ -probe on C is already "used up" for CCA and thereby cannot additionally mediate complementizer agreement with another matrix element. Another weakness of unlocking/deactivation accounts is that they have difficulties accounting for the cross-linguistic variation in CCA. As we saw in this chapter, there is language-specific variation as to whether Hyperraising requires information-structurally marked DPs, and permits additional A'-movement. This variation can be captured in a composite probe account via the option for independent probing (see section 6.5.5) but, to my understanding, is difficult to account for in a general unlocking/deactivation account, in which the CCA.DP is not attracted by a composite probe, but by a regular matrix [A] probe. Next, there is no morphological evidence for phase-unlocking/deactivation in CCA. Whilst in the original proposals from Richards, 1998 and Rackowski and Richards, 2005 we can see (a form of) ϕ -agreement between the matrix verb and the embedded CP, such agreement is not present in all CCA configurations under investigation. Lee and Yip, 2024 suggest that the agreement feature in CCA is not a morphological feature [ϕ] but an evidential feature [Ev]; [Ev] agrees with CP and thereby unlocks it. Whilst this seems promising given the morphology of the matrix verb, it feels as if [Ev] agreement would, after all, boil down to nothing else than a simple selectional requirement of the matrix verb: it needs an evidential embedded event. Whether this is enough to unlock the CP phase is open to discussion. Last, a general problem of phase-unlocking/deactivation accounts is how to restrict unlocking. How do these accounts predict that CCA.CPs alternate freely with regular, not unlocked CPs, out of which no CCA happens? The featural make-up of CP should, in principle, be the same. Note that Halpert, 2019 brings forward a neat implication of phase unlocking in stating that hyperraising is forced when the embedded clause carries [ϕ] features and the matrix TP requires its specifier to be filled: in these cases, T first agrees with the whole embedded CP, but if CP refuses to move to SpecTP, T looks inside CP and attracts the first fitting goal; the embedded subject. This is a nice cross-linguistic observation, however has, at least for Brazilian Portuguese, been challenged recently; Greeson, 2024 points out that some CPs allow to be moved to subject position whilst still permitting Hyperraising out of them. To conclude, I think that phase-unlocking/deactivation approaches do come with certain advantages, and potentially, these accounts can be combined with an [A'/A] approach. For the cases under discussion in this thesis, it appears to me that an [A'/A] approach renders the better predictions. However, as Halpert and Zeijlstra, 2024 insightfully point out, there might be various strategies across natural language to form CCA and potentially, phase-unlocking/deactivation is one of them, whilst

[A'/A] probing is another.

Defective CP/TP Another line of approach to CCA roots in the assumption that the embedded T head in CCA clauses is case-deficient: it cannot case-license its subject and thereby, the subject needs to move to the matrix clause to be licensed there. A further assumption of these accounts is that a C head selecting a defective T head does not depict a phase, thereby A-movement may proceed out of the embedded CP (Ferreira, 2000; 2009; Martins and Nunes, 2005; 2009; 2010; Nunes, 2008). Case-deficiency accounts maintain the Activity Condition (Chomsky, 2001), that is the assumption that only an unlicensed DP may undergo A-movement: DPs that have been case-licensed are not available for further agreement or A-movement. Thus, we have to assume that in CCA, the only locus of case-assignment is the matrix subject/object position. However, it seems that to large degrees, embedded T's case-defectiveness must be stipulated: as noted earlier, CCA.CPs always alternate freely with regular CPs; morphologically, the two are identical. In languages that exhibit overt ϕ -agreement, there is embedded ϕ -agreement between the subject and the verb, both in instances of CCA as well as in non-CCA complement CPs. It is surprising that the same T head with the same ϕ -features sometimes can license case (no CCA) and other times it cannot (CCA). Based on the agreement morphology, there is no indication of impoverished ϕ -agreement in CCA.CPs. Another difficulty for case-deficiency accounts is matrix verb selection: why do only certain matrix verbs allow for CCA whilst others do not? And how comes that the matrix predicate influences whether the embedded T head can be case-deficient or not? Further, as Wurmbrand, 2019 points out, some instances of Hyperraising even allow for case-stacking; in Japanese HyRtO, the hyperraised DP may stack an embedded case value and a matrix case value onto each other. This is highly unexpected under the assumption that the embedded T is not able to assign case. Last, case-deficient accounts miss to capture the cross-linguistic variation of CCA; why does CCA often but not always correlate with information-structural effects and can sometimes but not always co-occur with long-distance A'-movement?

Alternative accounts to LDA

Long-distance movement One alternative account for LDA is the assumption that the LDA.DP moves (covertly) to the matrix clause, where it undergoes ϕ -agreement with the matrix verb. This is based on the assumption that agreement requires a clause-mate relationship between the probe and goal. Such analyses exist, among others, for Hindi-Urdu (Mahajan, 1990), Tsez (Chandra, 2007), and Itelmen (Bobaljik and Wurmbrand, 2005). Whilst they might be viable analyses for some languages, in the languages under discussion, they make the wrong predictions. First, Bruening, 2001b very clearly argues that, as soon as the LDA.DP appears to be in the matrix clause, it has been base-generated there (prolepsis) and does no longer show any signs of having originated in the embedded clause (see also section 6.6.2 for data). In Tsez, long-distance movement seems to be prohibited in general (Polinsky and Potsdam, 2001; Polinsky, 2015) and it would be highly surprising that it becomes available for LDA alone. Next, under the assumption that movement into the matrix clause is A-movement, it is difficult to explain the A'-movement properties found in LDA configurations (e.g. reconstruction and weak crossover effects, obligatory information-structural effects, etc.). On the other hand, if the movement chain is long-distance A'-movement, it remains surprising that it triggers agreement on the matrix verb. Last, LDA is always optional; I assume that this would then have to

be tied to the optionality of movement. Last, such accounts, too, need an additional explanation of how A-movement can leave a fully finite CP complement clause—they would run into the same questions as Hyperraising accounts do.

Cyclic Agreement Another approach to LDA are cyclic agreement accounts, in which the LDA.DP stays in its base-position and agreement is mediated cyclically by intermediate phasal heads (Butt, 1995; Legate, 2005; Lahne, 2008; Preminger, 2009; Mursell, 2021). One of the main problems for cyclic agreement is the question why LDA depicts island-sensitivity. If the LDA.DP would remain in its base-position, and long-distance ϕ -agreement would target it there, it is difficult to account for the fact that the LDA.DP cannot be embedded inside an island; unless agreement is island-sensitive too. Another difficulty of these approaches is why LDA can target any embedded argument; we would have to assume that ϕ -agreement can choose freely from the embedded arguments which one it intends to agree with (not that Mursell, 2021 suggests that ϕ -agreement is intertwined with A'-agreement, thereby allows to skip intervening ϕ goals). Further, it is difficult under such an account to capture why long-distance A'-movement would be blocked by LDA. Last, as Branigan and MacKenzie, 2002 point out, the LDA.DP must be in the directly subsequent complement clause to the agreeing matrix verb and cannot be separated from it by an intervening clause. This is unexpected under a theory of cyclic agreement, for which we would expect to not be sensitive to locality restrictions (i.e. in theory, it should be possible that cyclic agreement, mediated by intermediate phase heads, should be able to reach further than one embedded clause). Note that we could combine an account of cyclic agreement with movement of the embedded DP to the phase edge: if C hosts an $[A'/\phi]$ probe, we could assume that $[\phi]$ mediates agreement whilst $[A']$, independently, attracts A'-movement of the agreed-with DP to SpecCP. Under this assumption, my proposal can be combined with a cyclic agreement approach.

6.6 The A'/A signatures of CCA

This last section shows how a composite probe analysis is able to derive the empirical A'/A signatures we find in CCA constructions, that is, the distribution of their A'- and A-properties. We find two A'/A signatures in CCA: one for Hyperraising constructions which involve an $[A'/\bullet A\bullet]$ probe on C, and one for LDA which involves an $[\bullet A'\bullet/A]$ probe on C. The empirical distribution of A'/A properties follows straightforwardly.

6.6.1 The A'/A signature of Hyperraising

The A'/A signature of HyRtO and HyRtS constructions is summarized in table 6.12. The relevant movement chain we are looking at is the embedded one, from the thematic base-position of the CCA.DP to embedded SpecCP. HyRtO and HyRtO involve an $[A'/A]$ probe on embedded C, triggering A-movement of its goal.

case	WCO	anaph. bind.	PG	feeds A-mvt	(re- constr.)	info- struct. effects	DP/ φ- goal	feeds φ- agree	Mini- mality	long dist.
✓	×	✓	n/a	✓	×	✓	✓	✓	A'/A*	✓
$\underbrace{\hspace{10em}}$ <i>movement</i> = A						$\underbrace{\hspace{10em}}$ <i>probe</i> = [A'/A]				$\underbrace{\hspace{10em}}$ [A'/A] <i>on</i> C

TABLE 6.12: The A'/A signature of HyRtS and HyRtO

Movement chain: A-movement

There is broad agreement that Hyperraising to subject/object depicts A-movement (*a.o.* Ferreira, 2000; 2009; Nunes, 2008; 2009; 2010; Şener, 2008; Şener, 2011; Bondarenko, 2017; Zyman, 2017; 2018; Deal, 2017a; Fong, 2019; Gong, 2022; Lee and Yip, 2024).²⁴ The following presents (some of) the empirical evidence.

Case-assignment: Hyperraising feeds morphological case-assignment. As can be seen in Turkish HyRtO (106a), the hyperraised DP *you* receives matrix accusative case. When not hyperraised, the embedded DP is expressed as nominative, shown in (106b). The same is true for Mongolian (107).

(106) *Turkish* (Şener, 2011: 3)

- a. *Pelin* [*sen-i* *Timbaktu-ya* *git-ti-n* *diye*] *duy-muş*
 Pelin-NOM [**you-ACC** *Timbaktu-DAT* *go-PST-2SG* C] *hear-PST*
 'Pelin heard that **you.ACC** went to Timbaktu.'
- b. *Pelin* [*sen-Ø* *Timbaktu-ya* *git-ti-n* *diye*] *duy-muş*
 Pelin-NOM [**you-NOM** *Timbaktu-DAT* *go-PST-2SG* C] *hear-PST*
 'Pelin heard that **you.NOM** went to Timbaktu.'

(107) *Mongolian* (Fong, 2019: 3)

- a. *Bat nokhoi-g chang-aar* [*t gaikhal-tai* *gej*] *khel-sen*
 Bat **dog-ACC** loud-INSTR [*t wonder-with* C] *say-PST*
 'Bat said loudly that **dogs.ACC** are wonderful.'
- b. *Bat chang-aar* [*nokhoi-Ø gaikhal-tai* *gej*] *khel-sen*
 Bat loud-INSTR [**dog-NOM** *wonder-with* C] *say-PST*
 'Bat said loudly that **dogs.NOM** are wonderful.'

The fact that the CCA.DP can be assigned case from the matrix verb shows that it is located in an A-position, either within the matrix clause or in SpecCP, from where it can take part in the matrix dependent case algorithm (see also Gong, 2022). In order to be in an A-position, the CCA.DP must have A-moved there.

No weak crossover effects: Neither HyRtO nor HyRtS induce weak crossover. In Mongolian HyRtO, (108a), the CCA.DP (*every girl*) moves from the embedded clause to the matrix clause, crossing a variable on its way (*her mother*). From its landing-site, the quantifier can bind the variable; this shows that it obviated WCO. In the not-hyperraised version of the clause, (108b), co-indexation is not possible. What happens in (108b) is that the DP hyperraised to the matrix clause is "pronounced in

²⁴Alboiu and Hill, 2016, suggest that Hyperraising to Object involves "A'-movement with A-movement properties", and specifically argue for embedded A-movement feeding matrix A'-movement to a derived vP position. Crucially, the embedded movement chain is A-movement.

the left-most position of the embedded clause" (Fong, 2019:29). In Mongolian, it is an option for the hyperraised object to not halt in the matrix object position but to A-move further above the matrix subject (potentially via A-scrambling); this is what we observe in (108b). From this position, it can bind a matrix variable.

(108) *Mongolian WCO* (Fong, 2019: 29)

- a. *Okhin бүр-ийг_i _{öör-iin-kh} _{n'_i} _{eej} [t ukhaan-tai*
girl every-ACC self-GEN-EPTH POSS.3 mother [t intelligence-with
gej] khel-sen.
C] say-PST
'Her_i mother said that every girl_i is intelligent.'
- b. *Öör-iin-kh _{n'_{*i/j}} _{eej} [okhin бүр_i ukhaan-tai gej]*
self-GEN-EPTH POSS.3 mother [girl every intelligence-with C]
khel-sen.
say-PST
'Her/His_{*i/j} mother said that every girl_i is intelligent.'

Similarly, in Romanian HyRtO, the hyperraised object *every mother* can bind a matrix element *her children* from its matrix landing site, shown in (109). This shows that its movement does not induce WCO.

- (109) *O aud pe fiecare mamă_i copiii _{ei_{i/j}} [că t muncește mult]*
her hear.3PL DOM each mother children her [C t works hard]
'Her_{i/j} children hear each of their_i mothers say she_i is working hard.'
Romanian (Alboiu and Hill, 2016)

In Brazilian Portuguese HyRtS, (110a), the hyperraised QP *all boys* can bind the matrix variable *their fathers*. In the base-order in (110b), the bound reading is ungrammatical.

(110) *Brazilian Portuguese WCO* (F. Kobayashi, p.c.)

- a. *Todos os meninos_i parecem pros pais _{deles_i} [que t são bons*
all the boys seem.PL to fathers of.them [C t are good
alunos]
students]
'All boys_i seem to their fathers_i to be good students.'
- b. *Parece pros pais _{deles_{*i/j}} [que todos os meninos_i são bons*
seem.3SG to fathers of.them [C all the boys are good
alunos]
students]
'It seems to their_{*i/j} fathers that all boys_i are good students.'

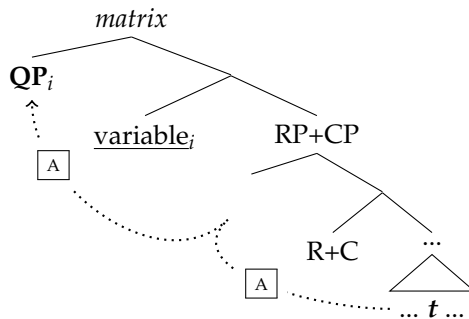
Creation of new antecedents for anaphor binding: HyRtS in Cantonese establishes a new antecedent for reflexive binding: the base-line example (111a) is ungrammatical, as a matrix reflexive precedes its antecedent (*Ming*). If *Ming* is hyperraised, as in (111b), it can bind the reflexive, indicating that the CCA.DP does not reconstruct into the embedded clause but establishes a new antecedent for reflexives.

(111) *Cantonese* (Lee and Yip, 2024: 24)

- a. *[*Gangeoi* *keoizigei* *baan pangjau ge gongfaat*] *gamgok* [*waa*
[according.to 3SG.SELF CL.PL friend MOD saying] feel.like [C
*Aaming*_i *hai jat go seoijan*]
Ming COP one CL bad.guy]
Int.: 'According to what his (lit. himself's) friends said, it is felt that
Ming is a bad guy.'
- b. *Aaming*_i [*Gangeoi* *keoizigei* *baan pangjau ge gongfaat*]
Ming [according.to 3SG.SELF CL.PL friend MOD saying]
gamgok [*waa t hai jat go seoijan*]
feel.like [C *t* COP one CL bad.guy]
'According to what his friends said, it is felt that Ming is a bad guy.'
(Lit.: 'Ming, according to what himself's friends said, (I) feel like, is a
bad guy.')

Hyperraising feeds subsequent A-movement: Note that all of the examples from above simultaneously indicate that the CCA.DP underwent a subsequent A-movement step in the matrix clause. In all examples, an embedded quantifier phrase (the CCA.DP) first moves to SpecCP and from there across a matrix variable and binds it from its landing-site, schematically depicted in (112). This means that not only movement from the base-position to embedded SpecCP but also movement from embedded CP to the matrix landing site must be A-movement; all other instances would be ruled out by the BIM.

(112) *Hyperraising feeds matrix variable binding*



Hyperraising cannot be fed by initial A'-movement: Further support for Hyperraising being A-movement comes from the fact that initial A'-movement cannot feed into HyR. I already abstractly suggested this for the subject restriction we observe in HyRtS and HyRtS (A'-movement out of Voice cannot feed A-movement to SpecCP). In Nez Perce, we find further evidence for the claim that an A'-moved element cannot be further hyperraised: in (113), the CCA.DP *children* originates in a deeply embedded clause (*will arrive*). Before HyRtO, it is A'-scrambled to the left-edge of the middle embedded clause (*Angel told Harold*). The predicate of the embedded middle clause, *tell*, does not induce CCA and thus the first movement step of the DP (from *will arrive* to *Angel told Harold*) is not hyperraising but regular A'-movement. After having been A'-moved to SpecCP of the *tell*-clause, the CCA.DP is in an A'-position. Even though the matrix predicate *think* is a CCA-permitting verb, it is not able to attract the CCA.DP *children*, as this would violate the BIM. The derivation fails, and no agreement between *think* and *children* can be established. This suggests that the movement chain involved in Hyperraising must be A-movement; if it was A'-movement, it would be fed by initial A'-movement.

- (113) **Tatlo-nm hi-nees-nek-se* [*mamay'ac Angel-nim*
 Tatlo-ERG 3SUBJ-O.PL-think-IMPERF [**children**.NOM Angel-ERG
pee-/0-ne Harold-ne [*t hi-pa-paay-no'*]]
 3/3-tell-PERF Harold-ACC [*t* 3SUBJ-S.PL-arrive-FUT]]
 Int.: 'Tatlo thinks that the children, Angel told Harold (they) would arrive.'
Nez Perce (Deal, 2017a: 8)

Lack of reconstruction effects: Hyperraising constructions tend to lack reconstruction effects, indicating that the CCA.DP has A-moved. In Mongolian HyRtO and Brazilian Portuguese HyRtS, the CCA.DP does not reconstruct for principle C: Hyperraising can fix an underlying condition C violation. Let us look at Brazilian Portuguese first: (114a) depicts the base-line example (without movement), in which an embedded R-expression (*Pedro*) cannot be co-indexed with a matrix pronoun (*he*) as this would violate principle C. If the R-expression is hyperraised across the pronoun, as in (114b), co-indexation between *Pedro* and *him* becomes grammatical. The lack of reconstruction indicates that the CCA.DP has A-moved.²⁵

- (114) *Brazilian Portuguese* (F. Kobayashi, p.c.)
- a. *Parece pra ele_{*i/j} [que dois cachorros do Pedro_i correram].*
 seems to him [that two dogs of.the **Pedro** ran.PL]
 'It seems to him_{*i} that Pedro's_i two dogs ran away.'
- b. *Dois cachorros do Pedro_i parecem pra ele_i [que t correram].*
two dogs of.the Pedro seem.3PL to him [that *t* ran.3PL]
 'The two dogs of Pedro_i seem to him_i to have run away.'

We find the same effect in Mongolian HyRtO. Again, co-indexation in the base-line example (115a) is ungrammatical, as the R-expression *Bat* would have to be bound by the c-commanding pronoun *her/him*. As soon as *Bat* undergoes HyRtO (and further A-scrambling above the matrix pronoun, Gong, 2022) co-indexation becomes grammatical, (115b). Thus, Mongolian HyRtO, too, lacks reconstruction into its embedded base-position.

- (115) *Mongolian* (Fong, 2019: 31)
- a. *Bi [Bat_i sain khiün gej] tüün-d_{*i/j} khel-sen*
 1SG.NOM [**Bat**.NOM good person C] 3SG-DAT say-PST
 'I told her/him_{*i/j} that Bat_i is a good person.'
- b. *Bat-iin_i eej-iig bi [t sain khiün gej] tüün-d_i khel-sen*
Bat-GEN mother-ACC 1SG.NOM [*t* good person C] 3SG-DAT say-PST
 'I told her/him_i that Bat's_i mother is a good person.'

In Turkish HyRtO, the CCA.DP lacks reconstruction for variable binding into the embedded clause. (116a) depicts the base-line example in which the variable *his/her student* can be bound by the quantifier *every advisor* (note that the nominative variable originates in a position below the dative quantifier and undergoes Hyperraising from there). If the variable *his/her student* hyperraises, as in (116b), co-indexation is no longer grammatical, indicating that HyRtO lacks reconstruction into the embedded clause.

²⁵F. Kobayashi pointed out to me that condition C is not a highly reliable criterion in Brazilian Portuguese, as it does not fully depend on c-command. Even if this is the case, there are other indications that CCA in Braz. Portuguese involves A-movement (e.g. WCO); the grammaticality contrast between the CCA clause and the non-CCA clause in condition C simply supports my claim.

- (116) *Turkish* (Şener, 2008: 25)
- a. [*her danışman_i-a öğrenci-si-ø_i* *tanıt-ıl-dı* *diye*
 [*every advisor-DAT student-3SG.POSS-NOM* introduce-PASS-PST C
] *bil-iyor-um*
] know-PRS-1SG
 'I know that his/her_i student was introduced to every advisor_i.'
- b. *öğrenci-si-ni_i* [*her danışman_i-a tanıt-ıl-dı* *diye*
student-3SG.POSS-ACC [*every advisor-DAT* introduce-PASS-PST C
] *bil-iyor-um*
] know-PRS-1SG
 'I know that his/her_{*i/j} student was introduced to every advisor_i.'

All of the listed properties (feeding morphological case, obviation of WCO effects, creation of new antecedents for anaphor binding, the ability to feed further A-movement but being unable to be fed by A'-movement, and the lack of reconstruction) indicate that Hyperraising constructions are instances of A-movement.²⁶

Probing head: [A'/A]

As suggested in this chapter, Hyperraising is induced by a composite probe, whence we expect it to involve information-structural effects, be restricted to nominals/φ-goals, exhibit A'/A minimality and feed φ-agreement. With the exception of A'/A minimality (which I accounted for via VoiceP phasality), all of these properties are borne out.

Information-structural effects As discussed in section 6.4.2, Hyperraising configurations often come with information-structural effects like a topic or definiteness requirement on the CCA.DP. (117) is a showcase example from Romanian, where the hyperraised DP cannot be an indefinite quantifier like *someone*.

- (117) **Am mirosit pe cineva* [*că t ne minte*].
 have.1 smelled DOM someone [C t 1PL.DAT lies]
 Int.: 'I/we suspected that someone was lying to us.'
Romanian (Alboiu and Hill, 2016: 276)

As discussed in section 6.4.2, information-structural effects may be omitted in some languages, which I ascribed to the possibility of independent probing (section 6.5.5). Crucially, all HyR constructions in principle allow the CCA.DP to be information-structurally marked.²⁷

Restriction to nominals: Next, Hyperraising is restricted to nominals. As Brazilian Portuguese (118), for example, shows, the PP *under the trees* cannot undergo HyRtS. Note that restriction to nominals is often not specifically reported but usually seems to be taken a given.

²⁶Unfortunately, there is no data on any of the discussed languages on whether Hyperraising licenses parasitic gaps. Under my proposal, we would expect them not to; I leave an investigation open for future research.

²⁷Mongolian prohibits the hyperraised DP to be a topic (Fong, 2019; Gong, 2022). Nevertheless, it prefers CCA.DPs that are referential and definite (Guntsetseg, Maezawa, and Yokogoshi, 2010). I take this to be enough information-structural marking to justify an [A'/A] probe.

- (118) **Debaixo d-essas árvores parecem* [*que t é um bom lugar para fazer um*
under of-these trees seem-PL [that *t* is a good place to make a
piquenique].
 picnic]
 Int.: 'Under the trees seems to be a good place to have a picnic.'
Brazilian Portuguese (F. Kobayashi, p.c.)

Hyperraising is A'/A minimal: I discussed that Hyperraising often appears to be A-minimal (restricted to the embedded subject). I suggested that this restriction is not caused by the [A'/A] probe being sensitive to the closest embedded DP, but can be accounted for by VoiceP phasality (see section 6.5.4). As long as a language allows to A-move an object out of VoiceP (e.g. via A-scrambling) and thereby make it accessible to R+C without violating the BIM, Hyperraising can target an embedded object. We saw that this prediction is borne out in Nez Perce, Mongolian (and Brazilian Portuguese possessor raising). The Mongolian example is repeated below.

- (119) *Odgerel shine baishin-g* [*t Dulmaa-d t baigaa gej*] *khel-sen*.
 Odgerel **new house-ACC** [*t Dulmaa-dat t COP.PRES C*] say-PST
 'Odgerel said that Dulmaa has a new house.' *Mongolian* (Fong, 2019: 10)

ϕ -agreement: Hyperraising triggers ϕ -agreement on the matrix verb, given that the language expresses overt morphological ϕ -agreement. This is best visible from Brazilian Portuguese HyRtS, where the CCA.DP *the boys* ϕ -agrees both with the embedded and the matrix verb.

- (120) *Os meninos parecem* [*que t fizeram a tarefa*]
the boys seem.3.PL [C *t* did.3.PL the homework]
 'The boys seem to have done their homework.'
Brazilian Portuguese (Nunes, 2009: 5)

Note that in no instance of CCA there is agreement on the embedded C head; I ascribe this to the fact that in Hyperraising, the [A] probe on C does not originally stem from C but is the result of a fused RP+CP. Thus, the language might simply lack the morphology for expressing agreement on the C head and thereby, ϕ -agreement between the CCA.DP and the R+C head is underlyingly present but not overtly visible.

[A'/A] is located on C

Last, the fact that Hyperraising can span a clause boundary indicates that the composite probe is located on the phase-edge C. It mediates A-movement from within the embedded to the matrix clause.

To summarize, Hyperraising (to object and subject) exhibits an A'/A signature that follows from a composite probe analysis: it involves an [A'/A] probe, thus is restricted to nominals/ ϕ -goals, comes with information-structural effects, is A'/A-minimal (though restricted by VoiceP phasality) and triggers ϕ -agreement in the matrix clause. The movement chain in Hyperraising configurations is an A-chain: it feeds into case-assignment, obviates WCO, lacks reconstruction effects, feeds subsequent A-movement and cannot be fed by A'-movement. Last, that the [A'/A] probe is located on the phasal head C is visible from the fact that the movement it induces

can leave the embedded clause and reach a matrix argument position (without losing its A-quality). Table 6.13, repeated from above, summarizes the A'/A signature of HyRtS and HyRtO.

case	WCO	anaph. bind.	PG	feeds A-mvt	(re- constr.)	info- struct. effects	DP/ ϕ - goal	feeds ϕ - agree	Mini- mality	can cross CP
✓	×	✓	n/a	✓	×	✓	✓	✓	A'/A	✓
$\underbrace{\hspace{10em}}_{\text{movement} = A}$						$\underbrace{\hspace{10em}}_{\text{probe} = [A'/A]}$				$[A'/A]$ on C

TABLE 6.13: The A'/A signature of HyRtS and HyRtO

For the languages allowing independent probing of $[A'/A]$ (Brazilian Portuguese, Cantonese and Mongolian) an additional A'/A signature is available in which the movement chain and the location of the probe remain the same, but the probing head changes from an $[A'/A]$ probe to a pure $[A]$ probe. The only thing that changes is that they are then purely A-minimal and do not trigger information-structural effects. This composition of properties is equally predicted in an A'/A signature framework, and depicted in table 6.14 below.

case	WCO	anaph. bind.	PG	feeds A-mvt	(re- constr.)	info- struct. effects	DP/ ϕ - goal	feeds ϕ - agree	Mini- mality	can cross CP
✓	×	✓	n/a	✓	×	×	✓	✓	A	✓
$\underbrace{\hspace{10em}}_{\text{movement} = A}$						$\underbrace{\hspace{10em}}_{\text{probe} = [A]}$				$[A]$ on C

TABLE 6.14: The A'/A signature of HyRtS and HyRtO in independent probing

6.6.2 The A'/A signature of LDA

The A'/A signature of long-distance agreement differs from the A'/A signature of Hyperraising solely in the fact that in LDA, the movement chain is A' (instead of A). The properties tracking type of probe are the same as in Hyperraising: the construction involves information structural effects, movement is restricted to DPs/ ϕ -goals, feeds ϕ -agreement, and the search process is A'/A minimal. The properties tying to the movement chain exhibit the opposite values from Hyperraising: in LDA, movement does neither feed case-assignment, nor subsequent A-movement, induces weak crossover and reconstructs into its base-position. LDA configurations thereby exhibit the following A'/A signature:

case	WCO	anaph. bind.	PG	feeds A-mvt	(re- constr.)	info- struct. effects	DP/ ϕ - goal	feeds ϕ - agree	Mini- mality	can cross CP
×	✓	n/a	n/a	×	✓	✓	✓	✓	A'/A	✓
$\underbrace{\hspace{10em}}_{\text{movement} = A'}$						$\underbrace{\hspace{10em}}_{\text{probe} = [A'/A]}$				$[A'/A]$ on C

TABLE 6.15: The A'/A signature of long-distance agreement

Movement chain: A'-movement

Across literature, it is commonly assumed that the LDA.DP A'-moves to the embedded left edge (overtly or covertly) from where it becomes accessible to matrix ϕ -agreement (Bruening, 2001b; 2001; Polinsky and Potsdam, 2001; Branigan and MacKenzie, 2002; Grishin, 2023). This is also the underlying assumption of my analysis and reflects itself in the presence of weak crossover and reconstruction effects, and the inability to feed matrix A-movement.

Weak crossover effects: In Passamaquoddy, we see that the LDA.DP induces weak crossover. In the base-line example (121a), co-indexation between a higher variable (*his mother*) and a lower quantifier (*everyone*) is ungrammatical, as expected. If the quantifier undergoes LDA, as in (121b), it moves to the embedded SpecCP, and thereby crosses the variable. Nevertheless, co-indexation remains ungrammatical, indicating that the movement chain is of type A'.

(121) *Passamaquoddy* (Bruening, 2001a: 23)

- a. *W-ikuwoss-ol_{*i/j} n-kisi-kat-a-ku-n psi=te wen_i*
 3-mother-OBV 1-PERF-hide-APP-INV-N **all=EMPH someone**
 'His_{*i/j} mother hid everyone_i from me.'
- b. *N-kosiciy-a [psi=te wen-(il)_i tama w-ikuwoss-ol_{*i/j}*
 1-know-TA [**all=EMPH someone-(OBV)** where 3-mother-OBV
 n-kisi-kat-a-ku-n t]
 1-PERF-hide-APP-INV-N *t*]
 Int.: 'I know (about everyone_i) where his_{*i/j} mother hid x from me.'

LDA does not feed subsequent A-movement: LDA does not feed A-movement into the matrix clause. This is expected if the LDA.DP A'-moves to SpecCP: a subsequent A-movement step would violate the BIM. In Passamaquoddy, there exist configurations in which it appears as if the LDA.DP had A-moved within the matrix clause: it seems to be the case than an LDA.DP can feed into matrix inverse movement. The inverse is an Algonquian construction in which the object A-moves across the subject (Bruening, 2001b; 2005; 2009; Oxford, 2023). In (122), it appears as if the LDA.DP partakes in the matrix inverse, that is A-moves across the matrix subject (visible from its ability to bind a variable embedded in the subject from the landing site). This is highly unexpected if we assume that the initial embedded movement step to SpecCP is A'-movement.

- (122) *Psi=te wen_i ' -kosiciy-uku-l w-ikuwoss-ol_i [*
 all=EMPH someone 3-know.TA-INV-OBV 3-mother-OBV [
 etoli-koti-peciya-t etolonukahk]
 IC.there-FUT-come-3CONJ gathering]
 'His_i mother knows that everyone_i is coming to the gathering.'
 Passamaquoddy (Bruening, 2001b: 274)

As a matter of fact, Bruening, 2001b shows convincingly that examples like (122) are not instances of LDA. Instead, what looks like the LDA.DP (*someone*) is base-generated within the matrix clause, depicting a form of prolepsis (for a more thorough discussion see section 6.7). As soon as the LDA.DP undergoes matrix A-movement (that is, is part of the matrix inverse construction), the evidence of it

having been moved within the embedded clause disappears; the embedded gap corresponding to the A-moved matrix object can now be within an embedded adjunct island, as shown in (123).

- (123) *Tihtiyas kosona Sapet* 'kosiciy-uku-l *wikuwoss-ol* [*eli psi=te*
Tihtiyas or Sapet 3-know.TA-INV-OBV 3.mother-OBV [C all=EMPH
wen macehe [*__ kisi-ntu-htit*]]
 someone leave.3 [*__ PERF-sing-3P.CONJ*]]
 'Her mother knows (about Tihtiyas or Sapet) that everyone left after they
 started singing.'

Passamaquoddy (Bruening, 2001b: 276)

Regular LDA configurations are island-sensitive, repeated in (124).

- (124) **N-kosiciy-a-k* [*kis-ankuweht-uwon* [*atomupil-ol* **Piyel naka Susehp**
 1-know.TA-**DIR-3P** [PERF-sell-2CONJ [car-**INAN.P** **Piyel and Susehp**
mil-osk-opon-il]]
 give-2CONJ.INV-PRET-PART.**INAN.P**]]
 Int.: 'I know (about them) that you sold [the cars Piyel and Susehp gave
 you].'

(Bruening, 2001a: 8)

Therefore, constructions that look as if LDA had fed matrix A-movement are in fact not instances of LDA, thereby not problematic for the BIM.²⁸ In Tsez, long-distance movement is in general ungrammatical, irrespective of LDA or not (Polinsky and Potsdam, 2001), thus this property is not testable. I conclude that (at least in Algonquian) LDA, movement to embedded SpecCP seems to not feed subsequent A-movement in the higher clause. This supports the claim that the initial movement step is A', thereby subsequent A-movement would violate the BIM. Note that matrix A'-movement is possible (as long as the language in general allows long-distance movement). In Passamaquoddy, for example, the LDA.DP can undergo wh-movement to the matrix clause, shown in (125).²⁹

- (125) *Weni-l* *Cora wewitaham-a-t* [*t eli nomiy-a-t* *lamiw*
who-OBV.SG Cora IC.remember.TA-**3OBJ-3CJ** [*t* C see.TA-**3OBJ-3CJ** inside
kcihku-k t]?
 woods.LOC *t*]
 'Who did Cora remember that she saw in the woods?'

Passamaquoddy (Grishin, 2023: 166)

Reconstruction effects: In Passamaquoddy, we find reconstruction for variable binding. In (126), the LDA.DP *his spouse* reconstructs into its base-position below the quantifier *everyone*. The two can be co-indexed, even after LDA. Bruening, 2001b takes this to be an indication for A'-movement; note, however, there are several instances where A-movement allows reconstruction for variable binding (even in English), thus this is not a strong argument for A'-movement.

²⁸Note that Branigan and MacKenzie, 2002 claim that in Innu-Aimûn, LDA may feed the matrix inverse, but do not discuss whether in such cases we still find evidence for embedded movement. Given that Passamaquoddy and Innu-Aimûn are closely related, I assume that the instances of LDA feeding the matrix inverse might be forms of prolepsis too.

²⁹Interestingly, when the LDA.DP is long-distance A'-moved, LDA becomes obligatory; see also Grishin, 2023:166. I leave open for future research why this is the case.

- (126) *N-kosiciy-a* [*nisuwihtic-il_i* *eli psi=te* *wen_i* *koselom-a-t* *t*].
 1-know.TA-3OBJ [**spouse-OBV.SG** C all=EMPH who love.TA-3OBJ-3CJ *t*]
 'I know that everyone_i loves his_i spouse.'
Passamaquoddy (Bruening, 2001b: 264)

LDA does not feed case-assignment: The prediction of LDA involving A'-movement is that the LDA.DP keeps the case it received in its base-position. If movement to SpecCP was A-movement, we would assume that the moved DP would feed into the dependent case algorithm from its high landing site and thereby have repercussions on case assignment. If movement to SpecCP in LDA is A'-movement, we do not expect that the high landing site of the LDA.DP can alter its case. Both *Passamaquoddy* and *Innu-aimûn* lack overt case marking, so we cannot tell anything from LDA there. However, *Tsez* shows overt case: it is an ergative language, marking the transitive subject with ERG and the transitive object with ABS. Thus, it has a form of dependent case algorithm that assigns ERG to the higher DP (the subject) and ABS to the lower one (the object) (note that *Tsez* is not a high absolutive language, thus there is no indication for the ABS object to move above the subject in general; Polinsky, 2016). In LDA constructions, the ABS object is attracted by [A'/A] and undergoes movement to SpecCP (from where it is visible for matrix agreement). When doing so, it keeps its absolutive case marking. If it was A-moved, we would expect it to feed into dependent case from its high landing site in CP. This would mean that the now higher object should alter its own case as well as the one of the subject it now c-commands; if the object landed in an A-position in CP, we would expect it to become ERG marked there and the subject to be ABS marked (as it is the lower A-DP). This is not the case: the embedded object keeps ABS, even when becoming the subject of LDA (and thereby being moving to SpecCP), shown in example (127). The object *bread* undergoes LDA; this has no effect on case marking of the ERG subject (*boy*) or on ABS marking of the object.

- (127) *Eni-r* [*už-ā* *magalu* *b-āc'-ru-ti*] *b-iy-xo*
 mother-DAT [boy-ERG **bread**.III.ABS III-EAT-PST.PRT.NMLZ] know.III
 'The mother knows that the boy ate the bread.'
Tsez (Polinsky and Potsdam, 2001: 584)

Note that *Tsez* only allows ϕ -agreement with absolutive DPs, not with any other case values (Polinsky and Potsdam, 2001; Bobaljik, 2008), shown in (128a) for dative and (128b) for genitive arguments. This is true both for long-distance as well as local agreement.

- (128) *Tsez* (Polinsky and Potsdam, 2001: 606)
- a. **eni-r* [*už-ā* *kidbe-r* *magalu* *tāχ-ru-ti*]
 mother-DAT [boy-ERG **girl**.II.DAT bread.ABS give-PST.PRT-NMLZ]
y-iyxo
 II-know
 Int.: 'The mother knows the boy gave the girl bread.'
- b. **eni-r* [*už-ā* *kidbe-s* *magalu* *b-āc'-ru-ti*]
 mother-DAT [boy-ERG **girl**.II.GEN bread.ABS III-eat-PST.PRT-NMLZ]
y-iyxo
 II-know
 Int.: 'The mother knows the boy ate the girl's bread.'

Along the lines of Polinsky and Potsdam, 2001; Bobaljik, 2008, I assume that the absolutive restriction is a requirement of Tsez ϕ -agreement in general and has nothing to do with LDA per se. The matrix $[\phi]$ probe in LDA can simply only see ABS arguments. If the element that has been attracted to SpecRP+CP by $[A' / A]$ on R+C is an ABS.DP, it can feed matrix ϕ -agreement. This does not mean, that $[A' / A]$ on R+C can only attract ABS argument; it can attract any argument to SpecRP+CP. However, only if the attracted argument is the absolutive, the matrix $[\phi]$ probe will be able to establish agreement, thus we only observe LDA in these cases (Polinsky and Potsdam, 2001). An ERG.DP that has been moved to SpecRP+CP will just not be able to trigger ϕ -agreement, based on independent reasons.³⁰

Probing head: $[A' / A]$

LDA is restricted to nominals: Even though this is usually not stated explicitly, LDA is restricted to DPs/ ϕ -goals and cannot occur with adjuncts or PPs (P. Grishin and J. Mursell, p.c.). Unfortunately, I am not able to present an ungrammatical example here, since all accounts seem to take this restriction as a given as agreement is restricted to nominals in the languages under discussion.

LDA triggers information-structural effects: The target DP of LDA has to be a topic, a focus or a wh-element (see also Mursell, 2020; 2021 for an extensive typology of the information-structural effects involved in LDA). In Passamaquoddy, LDA may target a topicalized (129a), focalized (129b) or wh-element (129c).

(129) *Passamaquoddy*

- a. *Ma=te n-kosiciy-a-wi* [*wot olu n-tatat,*
NEG 1SG-know.TA-DIR-NEG [**this**.AN TOP 1SG-father
tan-iyut keti-nomkuwal-s-it atomupil].
WH-this.INAN IC.FUT-lend-ITR-3SG.CONJ car]
'I don't know which car, my father, he's going to buy.'
Passamaquoddy (Bruening, 2001b: 282)
- b. *N-kosiciy-a* [**tehpu Susehp** *oc menuwa-c-ih*
1SG-know.TA-DIR [**only Susehp** FUT IC.buy-3SG.CONJ-PART.OBV.PL
nuhu akom].
three.OBV.PL snowshoe.OBV.PL]
'I know that only Susehp would buy three snowshoes.'
Passamaquoddy (Bruening, 2001b: 282)
- c. *'-Kociciy-a-l* *Piyel* [**wen-l** *kehci=*
3-know.TA-3OBJ-OBV.SG Peter [**who**-OBV.SG IC.big=
wewis-oski-li-t]
nosy-behave.AI-OBV-3CJ]
'Peter knows who is very nosy.'
(Grishin, 2023: 165)

In Innu-Aimûn, the LDA.DP must receive a topic interpretation or be expressed as a wh-element, shown in (130).

(130)

³⁰Uyghur is often brought up as an instance of LDA feeding case assignment (Mursell, 2021). I follow Asarina, 2011 and assume that CCA in Uyghur is rather Hyper-ECM rather than LDA, thus closer to Hyperraising to object than to LDA.

- (130) *Tshi-tshissenim-âu-â* [*auen ka-pâpîtaka*]?
 2-know-3-Q [**who** is laughing]
 'Do you know who is laughing?'
Innu-aimûn (Branigan and MacKenzie, 2002: 400)

In Tsez, LDA.DP must be a topic and cannot lack information-structural effects. Non-topicalizable elements like weak quantifiers are prohibited from undergoing LDA, shown in (131).

- (131) *Dä-r r-iy-x/*b-iy-x* [*b-^Qaq'u-si xalq'i*
 1SG.DAT IV-know-PRS/*IPL-know-PRS [IPL-many-ATTR **people**.ABS.IPL
samolyot-o zow-ani-q b-^Qä-ru-ti]
 plane-SUPER.ESS climb-MSD-POSS.ESS IPL-fear-PST.PTCP-NMLZ]
 'I know that many people are afraid to fly.' *Tsez* (Polinsky, 2015: 366)

A'/A minimality: LDA can target any embedded element, and is not restricted to the highest embedded DP or the embedded subject. For Passamaquoddy, this is shown in (132) where both the embedded direct object or indirect object can undergo LDA across an embedded subject.³¹

- (132) *Passamaquoddy*
 a. *Susehp '-kosiciy-a-'* [*akom-' eli Muwin kisi=*
 Joseph 3-know.TI-3OBJ-OBV.PL [**snowshoe**-OBV.PL C Bear PFV=
mil-a-t Wiphun].
 give.TA+O-3OBJ-3CJ Feather]
 'Joseph knows that Bear gave Feather snowshoes.'
 (Bruening, 2001b: 177)
 b. *Piyel ma=te ø-wewitaham-a-wi-yil* [*weni-l*
 Peter NEW=EMPH 3-remember.TA-3OBJ-NEG-OBV.SG [**who**-OBV.SG
kisi= mil-uk atomupil].
 IC.PFV= give.TA+O-1SG:3CJ car]
 'Peter doesn't remember who I gave a car.' (Bruening, 2001b: 190)

Similarly, in Innu-Aimûn, LDA may target either one of the embedded arguments (the subject *I* or the object *Marie*), shown in (133).

- (133) *Innu-Aimûn* (Branigan and MacKenzie, 2002: 399)
 a. *Ma tshi-tshissenim-in* [*tân ishpush na nit-aimâ Mânî*]?
 Q 2-know-1 [when 1-called Marie]
 'Do you know when I called Marie?'
 b. *Ma tshi-tshissenim-âu* [*tân ishpush na nit-aimâ Mânî*]?
 Q 2-know-3 [when 1-called **Marie**]
 'Do you know when I called Marie?'

φ-agreement: As we saw in all examples above, LDA is expressed via φ-agreement between the matrix verb and an embedded DP; in fact, this is the defining criterion for LDA. In section 6.5, I suggested that this is possible because the LDA.DP was

³¹Note that Passamaquoddy additionally exhibits LDA into reduced complement clauses (which most likely lack the CP layer or show a significantly reduced left periphery; Grishin, 2023), found with direct perception predicates; in these cases, LDA must target the embedded subject. Along the lines of Grishin, 2023 I assume that this is the case because these complements lack a CP phase above them, thus LDA is not mediated by A'-movement into CP but targets the embedded subject directly.

probed by an $[A'/\phi]$ head. The presence of $[\phi]$ makes the goal accessible for agreement with a matrix $[\phi]$ -probe. Put differently, the $[A'/\phi]$ probe on C mediates agreement between the matrix verb and the DP in SpecCP. Note that it is not the C head itself that establishes agreement; I propose that this is the case because complementizers in the languages under discussion are not in general equipped with $[\phi]$ (but only gain it from fusion with RP) and thus probably lack the morphology to establish overt ϕ -agreement themselves.

$[A'/A]$ is located on C

That the composite probe is located on the phase-edge is visible from the fact that LDA proceeds across a CP boundary. Note that particularly in LDA configurations, there seems to be a distinction between what part of CP is chosen; Tsez only allows CCA with topics but not with wh-elements whereas Passamaquoddy and Innu-Aimûn allow it with all sorts of A' -elements; wh-elements, foci and topics alike. I do not investigate this distinction in more detail (see Mursell, 2020; 2021 for a cartographic approach thereof), but assume that both with topical as well as wh and focalized LDA.DPs there is a CP boundary present, including a C head; In Passamaquoddy, this head is expressed by the complementizer *eli*.

Put together, LDA depicts an A'/A signature in which a composite probe on embedded C triggers A' -movement, repeated in table 6.16. All properties of LDA follow from the composite probe account proposed in this thesis.

case	WCO	anaph. bind.	PG	feeds A-mvt	(re-constr.)	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	can cross CP
×	✓	n/a	n/a	×	✓	✓	✓	✓	A'/A	✓
$\underbrace{\hspace{10em}}_{\text{movement} = A'}$						$\underbrace{\hspace{10em}}_{\text{probe} = [A'/A]}$				$[A'/A]$ on C

TABLE 6.16: The A'/A signature of long-distance agreement

6.7 CCA versus high base-generation

This last section investigates constructions that resemble CCA on the surface but have a different underlying syntax: prolepsis (shown in (134) for English) and hanging topics (shown in (135) for Brazilian Portuguese). This discussion can be understood as contextualization of the analysis presented above, and an overview of how CCA constructions distinguish from or relate to similar configurations.

- (134) I believe about **Kate** [that **she** won the Daughter-of-the-Year award]
English prolepsis (Davies, 2005: 646)

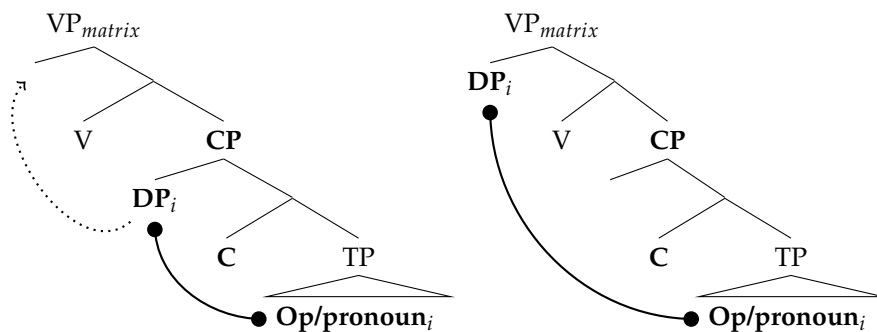
- (135) *Os meninos parecem [que eles viajaram ontem]*.
 the boys seem.3PL [C they traveled.3PL yesterday]
 ‘The boys seem to have traveled yesterday.’
Brazilian Portuguese hanging topic (Martins and Nunes, 2010: 145)

In prolepsis and hanging topics the relevant DP is base-generated high (either within the matrix clause or at embedded SpecCP) and is co-indexed with an embedded operator or pronoun, thus does not move from within the embedded clause. This section aims to show that CCA (involving embedded movement) co-exists with high

base-generation constructions; sometimes, the two even co-occur in the same language. When establishing a syntax for CCA, it is important to properly disentangle the three configurations.

I start with hanging topic constructions in subsection 6.7.1 where the relevant DP is base-generated as hanging topic in the embedded CP, shown below in structure (136). From embedded CP, the DP A-moves to a matrix subject or object position, thereby resembling CCA. Hanging topic constructions are found in Korean and Brazilian Portuguese and Passamaquoddy (in the last two, CCA and hanging topics co-exist). In subsection 6.7.2, I discuss prolepsis, where the relevant DP is base-generated outside the embedded clause (either within the matrix clause or in between the matrix and embedded clause), shown in (136). Proleptic constructions are wide-spread across natural language and are regularly reported to co-occur with CCA in the same language (e.g. Romanian (Alboiu and Hill, 2016 or Mongolian (Fong, 2019); that they are syntactically distinct from each other becomes visible when testing mutually exclusive properties.

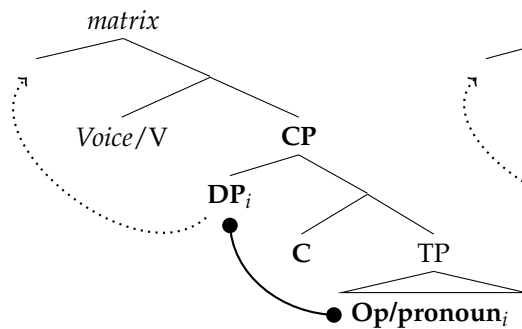
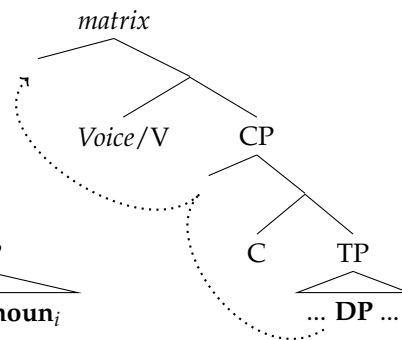
- (136) a) *Hanging topics*; (135) b) *Prolepsis*; (134)



This section shows that under close investigation and with the right syntactic tests, prolepsis, hanging topics and CCA can be disentangled from each other. This section not only shows that there IS a distinction between high base-generation and movement constructions, but also presents syntactic tools of how to tease them apart (within a single language as well as across languages).

6.7.1 Base-generation at embedded CP: hanging topics

Let us first have a look at hanging topic constructions (also high topic constructions) in which the apparent CCA.DP is base-generated at the left-edge of the embedded clause, and is co-indexed with a pronoun or operator in the relevant thematic position. From there, it may undergo further movement to the matrix clause. Hanging topics and CCA may look very similar on the surface, however, differ in whether the relevant DP undergoes embedded movement or not. In hanging topic constructions, there is no movement from the embedded thematic position to SpecCP: the DP starts out within CP. In CCA, on the other hand, the CCA.DP first has to move to SpecCP before proceeding further. Even though hanging topics do not move within the embedded clause, they may undergo A-movement from their base-position in SpecCP to a matrix argument position (see also Bruening, 2001b; Yoon, 2007; Martins and Nunes, 2010). The proposed structure for hanging topics (contrasted with CCA) is depicted in the structures below.

(137) a) *Hanging topics*b) *CCA*

Hanging topics are (among elsewhere) found in Korean (Yoon, 2007), Brazilian Portuguese (Martins and Nunes, 2010; Lohninger, Kovač, and Wurmbrand, 2022) and Passamaquoddy (Bruening, 2001b; LeSourd, 2019). I first investigate the Korean construction, where an embedded major subject moves from a high base-position in the embedded clause to a matrix object position. Thereby, it closely resembles HyRtO, but contrary to proper HyRtO, lacks all indications of embedded movement. After Korean, I present data from Brazilian Portuguese, which exhibits both CCA (HyRtS) and a parallel hanging topic configuration. Whilst the two look almost the same on the surface, I show that when thoroughly compared, they exhibit different syntactic structures.³² Last, I show that in Passamaquoddy, similar to Brazilian Portuguese, LDA co-exists with a hanging topic construction.

Korean Major Subject raising

Korean exhibits a configuration Yoon, 2007 terms *Major subject raising* which resembles HyRtO in many respects but, contrary to CCA, shows no signs of embedded movement. An example of the relevant construction is given in (138): the embedded subject *Yenghi* is marked with accusative case and seems to have moved out of the embedded CP to a matrix object position. Just like CCA, this construction is optional and alternates with a regular embedded clause in which *Yenghi* is marked nominative remains within the embedded clause.

- (138) *Cheli-nun Yenghi-lul* [*t yenglihay-ss-ta-ko*] *mitnun-ta*
 Cheli-NOM **Yenghi-ACC** [*t smart-PST-DECL-C*] believe-DECL
 'Cheli believes Yenghi to have been smart.' *Korean* (Yoon, 2007: 616)

Yoon, 2007 shows that the raised DP (the embedded subject *Yenghi*) has been base-generated high inside the embedded clause, as a *major subject* and is co-indexed with a *pro* (or sometimes even overt pronoun) in the respective thematic position (I refer to Korean major subjects as hanging topics as the two resemble each other in most respects; both are standardly taken to be base-generated high within the clause, not just in cases where they undergo further movement to the matrix clause (Doron and Heycock, 1999; Yoon, 2004)). From this high embedded position, the major subject can undergo A-movement to a matrix object position (under my assumption, this does not violate the BIM which I take to be a constraint on movement chains; as long as the DP has not A'-moved to SpecCP but was base-generated there, it can

³²This section is heavily based on Lohninger, Kovač, and Wurmbrand, 2022, the data was collected in collaboration with Iva Kovač and Susi Wurmbrand.

undergo matrix A-movement). That it lacks an initial movement step to the embedded left edge (and thereby is distinct from CCA) is evident from i) the lack of island-sensitivity, ii) the lack of embedded idiom construal, and iii) the allowance for overt resumptive pronouns. That the major subject does not remain in the embedded left-edge but A-moves into the matrix clause is evident from violations of the proper binding condition when extraposing the whole embedded clause. Last, Korean hanging topics do not show A-minimality/ or subject restrictions and have to receive a certain information-structural interpretation. These two properties do not directly indicate the lack of embedded movement but support a hanging topic analysis; i) any DP may be base-generated as hanging topic (not just the subject) and ii) a hanging topic needs to involve information-structural effects (i.e., be a topic). Table 6.17 summarizes the properties of the construction, contrasting them with the properties CCA constructions usually exhibit.

	Hanging topic	CCA
<i>Island-sensitivity</i>	×	✓
<i>Embedded idiom</i>	×	✓
<i>Embedded pronoun</i>	✓	×
<i>PBC</i>	✓	✓
<i>A-minimality</i>	×	depends
<i>Information-structure</i>	✓	depends

TABLE 6.17: Korean hanging topics vs. CCA

Island-sensitivity Opposed to CCA, hanging Korean topic constructions are not sensitive to embedded islands, shown in (139). This is expected if the relevant DP (*Yenghi*) is base-generated high in the embedded clause, and has not moved there from an embedded argument position. The operator/pronoun co-indexed with the hanging topic can be embedded inside an island (co-indexation is not island-sensitive).

- (139) *Na-nun Yenghi-lul* [[(*kunye-ka*) *e ha-nun*] *il*]-i
 I-TOP **Yenghi**-ACC [[(*she*-NOM) *do*-ADNOM] *work*]-NOM
mopemcek-ila-ko sayngkakhanta.
 exemplary-COP-C think
 ‘I think of Yenghi that the things (she) does are exemplary.’
 (Yoon, 2007: 619)

As we saw in section 6.4, all instances of CCA are island-sensitive. I repeat an example from Cantonese HyRtS for comparison.

- (140) ***Aaming** *tenggong* [*waa* [*t jiging zau-zo ge siusik*] *hai gaa ge*]
Ming hear [C [*t alreay leave-PFV MOD rumor*] *be false SFP*]
 Int.: ‘It is heard that the rumor that Ming already left is false.’
 Cantonese (Lee and Yip, 2024: 19)

Idiom construal Next, a the Korean hanging topic cannot be part of an embedded idiom; this is expected if it was base-generated high in the embedded clause.

- (141) *Hankwuksalam-un cakun kochwu-lul* [*t maypta-ko*] *sayngkakhanta*
 Koreans-TOP **small pepper**-ACC [*t hot-C*] *thinks-DECL*

Lit.: 'Koreans think that small peppers are hot.'

*Idiomatic: 'Koreans think that size/height is not a measure of toughness.'
(Yoon, 2007: 619)

Opposed to that, CCA allows the CCA.DP to be interpreted as a part of an embedded idiom, repeated from Mongolian (142).

- (142) *Dorj chang-aar Bat-iin nüüd-iig [t oreē deer-ee gar-san gej]*
 Dorj loud-INSTR Bat-GEN EYE-ACC [t top on-REFL.POSS climb-PST C]
khel-sen
 say-PST
 Lit.: 'Dorj said loudly that Bat's eyes climbed on top of themselves.'
 Idiomatic: 'Dorj said loudly that Bat was very surprised.'
Mongolian (Fong, 2019: 5)

Embedded pronoun Korean hanging topic constructions allow an embedded resumptive pronoun in the argument position of the relevant DP: this is expected if this DP has not undergone movement to the embedded SpecCP. In (143) the hanging topic *Yenghi* has been raised to matrix object position and may be resumed by a pronoun in the subject position of the embedded clause.

- (143) *Na-nun Yenghi-lul [[kunye-ka e ha-nun] il]-i*
 I-TOP *Yenghi*-ACC [[*she*-NOM do-ADNOM] work]-NOM
mopemcek-ila-ko sayngkakhanta.
 exemplary-COP-C think
 'I think of Yenghi that the things (she) does are exemplary.'
 (Yoon, 2007: 619)

As we saw earlier, in CCA prohibits an embedded pronouns, repeated from Mongolian (144).

- (144) **Dorj Nara-g chang-aar [(*ter) sain gej] khel-sen*
 Dorj *Nara*-ACC loud-INSTR [(*3SG) good C] say-PST
 'Dorj said loudly that Nara will come tomorrow.'
Mongolian (Fong, 2019: 19)

The three properties listed above (island-sensitivity, idiom construal and embedded pronouns) clearly distinguish Korean major subject raising from CCA in that the former do not involve movement within the embedded clause but starts out in the embedded left edge. Nevertheless, the Korean construction resembles CCA in that it involves movement from the embedded CP to a matrix argument position. This is evident from proper binding condition (PBC) violations.

Proper binding condition In Korean hanging topic constructions, the embedded clause cannot be scrambled to clause-initial position, see (145). This indicates that the hanging topic *Cheli* has been moved to the matrix object position. Its trace in SpecCP must be properly bound, thus the whole embedded clause cannot be scrambled to sentence-initial position.

- (145) ??[*t acwu ikicek-ila*]-ko *na-nun Cheli-lul sayngkakhanta*
 [t very selfish-COP]-C I-C *Cheli*-ACC think
 Int.: 'I consider Cheli very selfish.'
 (Yoon, 2007: 645)

A-minimality Last, Korean hanging topic configurations do not show subject/A-minimality restrictions and exhibit information-structural effects. ?? shows that any embedded DP may be base-generated as a hanging topic and from there undergo raising to matrix object position; the relevant DP does not need to be the subject. In (146), *t* indicates the trace of the hanging topic in SpecCP, whereas *pro* indicates the co-indexed pronoun (covert) in the thematic position of the hanging topic.

- (146) *Na-nun Pwukhansan-ul [t mwul-i pro manhi nanta-ko]*
 I-TOP Mt. Pwukhan-ACC [*t* water-NOM *pro* a.lot flow-C]
sayngkakhanta.
 think
 'I believe that there are a lot of springs flowing from Mt. Pwukhan.'
 (Yoon, 2007: 618)

Last, Korean raised hanging topics must involve information-structural properties; they require a specific/definite interpretation, shown in (147), where *monkey* cannot be an indefinite element.

- (147) *Cheli-nun wonswungi-?*lul/ka banana-lul cikum meknunta-ko*
 Cheli-TOP **monkey-***?ACC/NOM banana-ACC now eat-C
sayngkakhanta.
 thinks
 'Cheli considers a/the monkey to be eating a banana right now.'
 (Yoon, 2007: 630)

Both the lack of an embedded subject restriction as well as the obligatory presence of information-structural effects are also present in some CCA constructions (e.g. in LDA), thus these properties do not directly distinguish Korean hanging topics from CCA. They do, however, support a hanging topic analysis; we expect hanging topics to not be restricted to the grammatical subject and involve information-structural effects.

To summarize, I showed that whilst the Korean construction in ?? resembles HyRtO on the surface, it is not an instance of CCA. Like CCA, the DP *Yenghi* has moved from the embedded clause to a matrix object position (where it receives matrix ACC). Unlike CCA, *Yenghi* does not show any indication of an initial movement step from an embedded argument position to the embedded SpecCP. Rather, as proposed in Yoon, 2007, it starts out from a high base-generated position within the embedded clause.

The hanging topic configuration in Korean shows that not all constructions that appear to be CCA involve true movement from an embedded argument position. Optimally, CCA and hanging topics would be mutually exclusive in natural language; unfortunately, this is not the case. Some languages allow for hanging topics to co-exist with CCA: we find this in Brazilian Portuguese and Passamaquoddy.

Brazilian Portuguese hanging topic raising

In Brazilian Portuguese, true HyRtS co-exists with a hanging topic constructions in which the hyperraised DP has been base-generated in embedded SpecCP. On the surface, the two configurations look almost the same: an example like (148) can, in principle, have two underlying structures: it can be a true CCA construction in which *the boys* originates in the embedded agent position, moves to the embedded left edge and from there is hyperraised to the matrix subject position (Ferreira, 2000;

- a. **Algum aluno parecia [que ele ia viajar].*
some student seemed [C **he** went travel]
 Int.: 'It seemed that some student was going to travel.' *Hanging topic*
- b. *Algum aluno parecia [que t ia viajar].*
some student seemed [C *t* went travel]
 'It seemed that some student was going to travel.' *HyRtS*

Next, the hanging topic configuration does not allow the construal of an embedded idiom, shown in (151a), whereas its HyRtS counterpart permits an idiomatic interpretation, (151b).

- (151) *Idiom construal* (Martins and Nunes, 2010: 150)
- a. *A vaca parece [que ela foi pro brejo].*
the cow seems [C **it** went to.the swamp]
 Lit.: 'The cow seems to have gone to the swamp.'
 *Idiomatic: 'It seems that things went bad.' *Hanging topic*
- b. *A vaca parece [que t foi pro brejo].*
the cow seems [C *t* went to.the swamp]
 Lit.: 'The cow seems to have gone to the swamp.'
 Idiomatic: 'It seems that things went bad.' *HyRtS*

Further, in hanging topic configurations, the hanging topic may be co-indexed with a pronoun (*pro*) embedded inside an island, as in (152a), whereas HyRtS out of an embedded island is ungrammatical, as in (152b). The contrast in (152) simultaneously shows the distinction in minimality between the two constructions: hanging topics are non A-minimal, that is any argument can be merged as a hanging topic.

- (152) *Islands and A-minimality* (Martins and Nunes, 2010: 155)
- a. *Esses carros_i parecem [que [as pessoas que compraram **pro_i**] se*
these cars_i seem.3PL [C [the people who bought **pro_i**] REFL
arrependeram].
 repented]
 'It seems that people who bought these cars regretted it.' *Hanging topic*
- b. **Esses carros parecem [que [as pessoas que compraram *t*] se*
these cars_i seem.3PL [C [the people who bought *t*] REFL
arrependeram].
 repented]
 Int.: 'It seems that people who bought these cars regretted it.' *HyRtS*

Last, HyRtS allows additional A'-movement to co-occur out of the same embedded clause, (153b), whereas a hanging topic configuration blocks A'-movement of an additional element, see (153a).

- (153) *Additional A'-movement* (F. Kobayashi, p.c.)
- a. **Quais livros os meninos parecem [que eles leram *t*]?*
which books **the boys** seem.3PL [C **they** read.3PL *t*]
 'Which books do the boys seem to have read?' *Hanging topic*
- b. *Quais livros os meninos parecem [que t leram *t*]?*
which books **the boys** seem.3PL [C *t* read.3PL *t*]
 'Which books do the boys seem to have read?' *HyRtS*

(154) *A vaca parece [que (*ela) foi pro brejo].*
the cow seems [C (*it) went to.the swamp]
 Idiomatic: ‘It seems that things went bad.’ (Martins and Nunes, 2010: 150)

(155) *Algum aluno* parecia [*que (*ele) ia viajar*]
some student seemed [C (***he**) went travel]
 'It seemed that some student was going to travel.'
 (Martins and Nunes, 2010: 150)

(156) **Só três carros parecem* [*que* [*as pessoas que compraram* ***prolt***] *se*
only three cars seem.3PL [C [the people who bought ***prolt***] REFL
arrependeram]
 repented]
 Int.: ‘It seems that people who bought these cars regretted it.’
 (Lohninger, Kovač, and Wurmbrand, 2022: 17)

Lohninger, Kovač, and Wurmbrand, 2022 show that only investigating one of the two constructions in solitude is not sufficient to properly disentangle it from the other; only by contrastively testing mutually exclusive properties we are able to diagnose that hanging topics and HyRtS are in fact two co-existent constructions in Brazilian Portuguese. This might be helpful for the future investigation of CCA configurations across languages; before arguing for either a movement or a high base-generation analysis, it first has to be disentangled whether the language under investigation might exhibit both constructions which, on the surface, may be indistinguishable from each other.

Passamaquoddy hanging topics

A last example for the co-existence of hanging topics with CCA can be found in in Passamaquoddy (see Bruening, 2001b for an extensive argumentation), where LDA (157a) alternates with high base-generation, (157b). Superficially, the two constructions resemble each other—below we will see that, just like Brazilian Portuguese hanging topics and CCA, they can be disentangled via testing mutually exclusive properties.

(157) *Passamaquoddy LDA vs. prolepsis*

- a. 'Kosiciy-a-l yaq [uhsimis-ol eli keka
3-know.TA-**DIR**-OBV QUOT [3.younger.sibling-OBV C almost
peciya-li-t]
come-OBVS-3CONJ]
'She knew that her brother had almost arrived.' (Bruening, 2001a: 1)
- b. **Psi=te** wen 'kosiciy-uku-l Maliw-ol [eli nucitqonket
all=EMPH someone 3-know.TA-**INV**-OBV Mary-OBV [C policeman
nomiy-at]
see-3CONJ]
'Mary knows that a policeman saw everyone.' (Bruening, 2001a: 13)

On the surface, the two configurations look almost the same: they both involve agreement with a (seemingly) embedded object. The difference between (157a) and (157b) lies in the inverse marking of the matrix verb. Algonquian languages allow for an object to A-move across the subject, called the *inverse*, reflected in fronting of the object and a morphological INV marker on the verb. Example (157b) looks as if an embedded object (*everyone*) underwent CCA to the embedded SpecCP and then was A-moved across the matrix subject (*Mary*) via the inverse. Hence, (157b) could simply be version of the LDA clause in (157a), in which the LDA.DP underwent a further movement step in the matrix clause.

When investigated in detail, this is not the case and the two constructions in (157) are syntactically distinct: in the hanging topic (157b), there is no indication that the CCA.DP (*everyone*) has moved from within the embedded clause whilst in the LDA (157a), the DP *younger sibling* shows clear signs of movement within the complement. The differences in movement are visible in island-sensitivity: the hanging topic structure is not sensitive to embedded islands, see (158), depicting an adjunct island within which the gap (co-referent with the hanging topic *Tihtiyas or Sapet*) is embedded.

- (158) **Tihtiyas kosona Sapet** 'kosiciy-uku-l wikuwoss-ol [eli psi=te
Tihtiyas or Sapet 3-know.TA-**INV**-OBV 3.mother-OBV [C all=EMPH
wen macehe [__ kisi-ntu-htit]]
someone leave.3 [__ PERF-sing-3P.CONJ]]
'Her mother knows (about Tihtiyas or Sapet) that everyone left after they started singing.'

Passamaquoddy (Bruening, 2001b: 276)

The regular LDA configuration (i.e. the one without matrix inverse) is island-sensitive, repeated in (159) with a complex NP island.

- (159) **N-kosiciy-a-k* [*kis-ankuwweht-uwon* [*atomupil-ol Piyel naka Susehp*
 1-know.TA-**DIR-3P** [PERF-sell-2CONJ [car-**INAN.P** **Piyel and Susehp**
mil-osk-opon-il]]
 give-2CONJ.INV-PRET-PART.**INAN.P**]]
 Int.: 'I know (about them) that you sold [the cars Piyel and Susehp gave
 you].'
 (Bruening, 2001a: 8)

The difference in island-sensitivity suggests that we are not looking at two versions of the same LDA clause. Rather, Passamaquoddy allows both, LDA and hanging topics. Only the latter allows for the relevant DP (the hanging topic) to undergo matrix inverse (A-)movement, whereas the true LDA construction requires the LDA.DP to remain inside the embedded CP. Since it has A'-moved there, it cannot feed matrix A-movement (= BIM). Along the lines of Bruening, 2001b, I assume that (157b) corresponds to a hanging topic structure, and involves two thematically distinct arguments, whilst the opposed LDA construction only involves a single thematic (embedded) argument, which is moved to the embedded clause edge. To conclude, we see that in Passamaquoddy, just as in Brazilian Portuguese, hanging topic raising co-exists with CCA and in order to investigate either one, we need to test mutually exclusive properties thereof.

Related to hanging topics are proleptic constructions, discussed in the following section. In proleptic constructions, the relevant DP is base-generated outside the embedded clause; thereby, hanging topics and proleptic constructions differ in that the former leave a trace in the embedded clause (in SpecCP) whilst proleptic DPs do not, since they are base-generated outside the complement clause altogether.

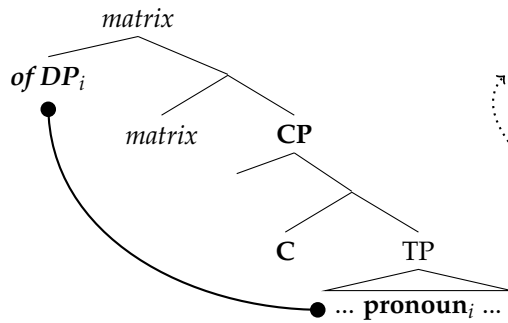
6.7.2 Base-generation above embedded CP: prolepsis

CCA configurations are often contrasted with Prolepsis. Prolepsis is a cross-linguistically wide-spread phenomenon in which a matrix argument is semantically related to a finite embedded clause, without a movement operation connecting the two (see Salzmann, 2017 for an overview). Take (160) as an example: the matrix object *Viola* is semantically connected to *is a good swimmer* and is obligatorily co-indexed with an embedded pronoun or gap.

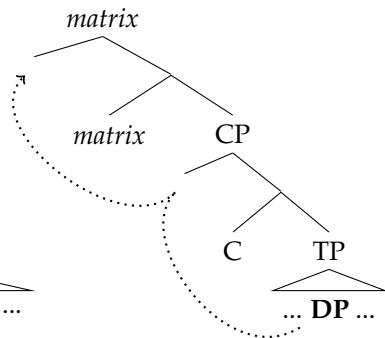
- (160) I believe **of** *Viola*_i [that **she**_{i/*j} is a good swimmer]

The proleptic object (*Viola*) is assumed to be base-generated above the embedded clause, either within the matrix clause (Salzmann, 2017) or in a relational phrase between the two clauses (den Dikken, 2006; 2017; Lohninger, Kovač, and Wurmbrand, 2022). In many languages (but not all, see Davies, 2005), it is introduced as a PP, just like in English (160), where *Viola* is embedded under the preposition *of*. The proleptic object (*Viola*) does not originate within the embedded clause and no movement chain connects the embedded pronoun *she* and matrix *Viola*. The structure is presented in (161), contrasted with a CCA structure.

(161) a) *Prolepsis*



b) *CCA*



Just as in Hanging topics, the main difference between CCA and prolepsis lies in the presence vs. absence of embedded movement: in CCA, the CCA.DP originates in an embedded argument position and moves to the embedded left edge (and in Hyperraising further to the matrix clause). In Prolepsis, the proleptic object does not move; it is base-generated outside of the embedded clause. Prolepsis configurations are found in a wide range of languages; in some, they co-occur with CCA (reported, for example, for Romanian (Alboiu and Hill, 2016 and Mongolian (Fong, 2019). In the following, I present a short summary of arguments supporting two distinct analysis for prolepsis and CCA, summarized in 6.19. For a detailed comparison of the two, I refer the interested reader to Lohninger, Kovač, and Wurmbrand, 2022.

	Prolepsis	CCA
Matrix predicates	highly productive	restricted set of predicates
Embedded pronoun	✓	×
Island-sensitivity	×	✓
Embedded subject restriction	×	depends

TABLE 6.19: Prolepsis vs. CCA

Matrix predicates & productivity To start with, Prolepsis is highly productive and grammatical with almost any CP-selecting matrix predicate (Davies, 2005; Salzmann, 2017), whereas CCA is only found with a very restricted set of matrix predicates. Salzmann, 2017 presents an exemplary list of matrix predicates allowing prolepsis; the most frequent are epistemic and desiderative verbs, as well as verbs of speech verbs of speech; however, according to Salzmann, almost any predicate may be used in prolepsis, even unaccusatives like *seem*, as in the German example (162).

- (162) Jeder hat **einen Traum**, von dem es scheint, [dass er nie in
everyone has a **dream** of which.DAT it seems [that it never in
Erfüllung geht]
fulfillment goes]
'Everyone has a dream of which it seems that it never becomes true.'
German (Salzmann, 2017: 5)

As already shown in section 6.4, CCA configurations are far less productive: they are usually restricted to a small set of propositional matrix predicates, often epistemic or perception verbs.

Embedded pronoun/gap Prolepsis requires an embedded pronoun or an embedded gap, which is co-indexed with the proleptic object in the matrix clause.

- (163) I believe of **Viola**_i [that ***(she)**_i is a good swimmer]

As shown above, CCA configurations prohibit embedded pronouns, repeated from Romanian HyRtO (164).

- (164) *L_i-am vazut pe Horatiu_i [că e (*el_i) om bun]*
 him_i-have.1SG seen **DOM Horatio** [that is ***(he)**_i man good]
 I saw/realized that Horatio is a good man.'

Romanian (Alboiu and Hill, 2016: 260)

This contrast supports an analysis in which CCA arises via true movement, leaving behind a trace (or copy), whereas prolepsis involves high base-generation and co-indexation with an embedded pronoun/gap. Thereby, an embedded pronoun is obligatory in prolepsis but prohibited in CCA.

Island-sensitivity CCA is sensitive to islands, which is expected if we assume that it involves movement within the embedded clause. In proleptic constructions, the embedded pronoun/gap may be embedded within an island without causing ungrammaticality. This is evident from English (165), where the co-indexed pronoun *she* is embedded within a complex NP island.

- (165) I believe **about Atin** [that [the story that **she** captured the thief] is untrue]
 (Davies, 2005: 659)

Again, this is expected if CCA involves movement but prolepsis does not: co-indexation is not sensitive to islands whereas movement is.

Restriction to the embedded subject A last distinction between prolepsis and CCA is found in A-minimality effects: As we saw earlier, CCA tends to be restricted to the highest embedded DP (which often falls together with the subject, but see 6.5.4 for a discussion). Prolepsis, on the other hand, is unrestricted; the co-indexed pronoun/gap may occur in any embedded argument position, as shown in (166), where the proleptic DP corresponds to the embedded object.

- (166) Sheryl thought about/of **Tim**_i that the police would never catch **him**_i.
 (Davies, 2005: 654)

Proper Binding Condition Last, opposed to hanging topic constructions, the proleptic object is base-generated outside of the embedded clause, thus does not leave a trace in embedded CP. Thereby, it is possible to move the whole embedded clause above the proleptic object without violating the proper binding condition (remember that this was not possible in Korean, where the hanging topic was connected to the complement via a trace). (167) shows an example from German.

- (167) ?[*Dass sie_i eine gute Schwimmerin ist*] *glaube ich nur von Viola*
 [that **she** is a good swimmer] believe.1SG I only of **Viola**_i
 'I only believe of Viola that she is a good swimmer.'

Along with most works on CCA, I conclude that prolepsis and CCA constitute two different constructions: prolepsis involves two independent elements, a proleptic object merged outside of the embedded clause and an embedded pronoun/gap,

which are connected to each other via obligatory co-reference. CCA configurations, on the other hand, only involve one element, the CCA.DP, which is moved from within the embedded clause to the embedded left-edge (in LDA) or higher into the matrix clause (Hyperraising). Just like hanging topics, languages can in principle exhibit both configurations (see for example Alboiu and Hill, 2016 for Romanian and Fong, 2019 for Mongolian), although this option appears to be less reported than the co-existence of CCA with hanging topic configurations. Table 6.20 summarizes where we find the relevant distinctions between the three constructions discussed in this chapter. The first row shows distinctions in matrix predicates: proleptic configurations occur with a wide variety of CP-selecting predicates, whereas hanging topic and CCA configurations are restricted to a small set of CP selecting predicates; often, they are in some form epistemic or perceptual. The second row summarizes whether there are signs of movement within the embedded clause; such are only found in CCA, whilst in prolepsis and hanging topics, there is no indication for embedded movement. The third row shows A-minimality distinctions: prolepsis and hanging topic constructions may cross-reference any embedded argument and are not restricted to the embedded subject. CCA is a bit more complex; it usually targets the highest embedded argument in Hyperraising configurations but is free in LDA. Hence, the value is marked with both $\times$ and $\checkmark$ (see section 6.5 for a discussion of this property). Next, obligatory information-structural effects (like topicalization) are found in both prolepsis (see also Salzmann, 2017) and hanging topics whereas CCA, again, splits into two types. The first type requires the CCA.DP to be information-structurally marked whereas the second type allows information-structural effects but does not obligatorily requires them. The last row shows whether CCA may co-occur with additional A'-movement; for proleptic constructions, to my knowledge, this is not systematically studied, hence I indicated the property with a question mark. Hanging topic configurations appear to not co-occur with additional A'-movement. In CCA, we find again a split: those languages which require information-structural effects on the CCA.DP prohibit additional A'-movement, whereas those languages in which information-structural effects may be absent, allow additional A'-movement.

	Prolepsis	Hanging topic	CCA (HyRtS, HyRtO, LDA)	
<i>Matrix predicates</i>	productive	restricted	restricted	
<i>Embedded movement</i>	$\times$	$\times$	$\checkmark$	
<i>A-minimality</i>	$\times$	$\times$	$\checkmark$ (HyR); $\times$ (LDA)	
<i>Obligator. information-struct. effects</i>	$\times$	$\times$	$\checkmark$	$\times$
<i>Additional A'-mvt</i>	?	$\times$	$\times$	$\checkmark$
	English Korean Mongolian Nez Perce Romanian	Braz. Port. Korean Passam.	Innu-Aim. Passam. Romanian Tsez Turkish	Braz. Port. Cantonese Mongolian Nez Perce

TABLE 6.20: The typology of prolepsis, hanging topics and CCA

The analysis presented in this chapter focused on the constructions listed in the last column of table 6.20: HyRtO, HyRtS and LDA (that is the constructions that involve embedded movement), their fine-grained distinctions and how they can be captured under a composite probe analysis.

6.8 Conclusion

This chapter presented a composite probe analysis for cross-clausal A-dependencies in which an $[A'/A]$ probe on embedded C mediates cross-clausal A-movement or agreement. I investigated Hyperraising to subject (in Brazilian Portuguese and Cantonese), Hyperraising to object (in Mongolian, Nez Perce, Romanian and Turkish) and Long-distance Agreement (in Innu-Aimûn, Passamaquoddy and Tsez). I first discussed the widely agreed-upon properties of CCA: these constructions are always optional, the complement clause is a fully finite CP, and the CCA.DP originates in the embedded clause and undergoes movement (to its edge and, in Hyperraising, further to the matrix clause). Further, I presented properties of CCA where we find language-specific variation; minimality restrictions, obligatory information-structural effects, the allowance for additional A'-movement and whether movement in CCA resembles an A'- or an A-chain. Based on this empirical landscape, I presented an A'/A analysis for proper CCA configurations (such which involve movement from within the embedded clause), based on a movement-mediating composite probe on embedded C. I suggested that $[A'/A]$ on embedded C emerges via a fusion of a predication phrase RP with a complement CP, rendering a fused head R+C equipped with a composite probe. I proposed that this $[A'/A]$ probe may trigger different movement chains to the embedded left edge; A-movement in Hyperraising and A'-movement in LDA. The different movement chains, combined with the phasal status of VoiceP, account for the distinct minimality profiles in Hyperraising versus LDA. Next, I discussed the language-specific last-resort option for $[A'/A]$ probes to split up when no fully fitting goal is found. The ability to probe independently and agree with two separate goals explains the optional lack of information-structural effects on the CCA.DP, the (in)ability of CCA to co-occur with A'-movement in some languages and accounts for the correlation of these two properties. Further, I briefly discussed alternative accounts to CCA, arguing that a composite probe approach captures the empirical landscape of CCA constructions best. This claim is supported by the empirical A'/A signatures of Hyperraising and LDA, presented in the last section. I show that the empirical mixture of A'- and A-properties in CCA constructions follows straightforwardly from a composite probe analysis. In the last part of the chapter, I contrasted CCA with similar constructions in which the apparent CCA.DP is base-generated above the embedded clause (hanging topics and proleptic constructions) and proposed that both configurations can co-exist within a single language. I presented tools to disentangle CCA from high base-generation constructions, suggesting that only when testing mutually exclusive syntactic properties, it becomes evident whether we are dealing with two underlyingly distinct constructions or whether we are looking at a CCA configuration at all. Across language, there exist (at least) three configurations that resemble each other on the surface but exhibit a distinct syntax: prolepsis, hanging-topic constructions and movement-involving CCA (Hyperraising and LDA). It is relevant for our understanding of CCA to keep these three apart, as they require distinct syntactic analyses.

Chapter 7

A'/A in Austronesian Promotion to Pivot

7.1 Introduction and Overview

Many Austronesian languages, among others Balinese and Malagasy (which this chapter focuses on), have been in the focus of syntactic attention for many years because of their unusual subjecthood patterns.¹ In each clause, one argument is highlighted and promoted to *pivot* (also *subject* or *trigger*). The pivot is more salient than the other arguments, cross-referenced by verbal morphology and often combines the functions of both a subject and a topic. In Balinese and Malagasy, the pivot is moved to the clausal periphery, its -role is tracked by verbal morphology, termed *voice-marking* (indicated as AV and OV/PV), the details of which are described in the next section. Two examples from are given below. In Malagasy (1a), the agent *Sahondra* is promoted to pivot: it surfaces in clause-final position and is cross-referenced by AV morphology on the verb. In (1b), the theme *tree* becomes the pivot, reflected by PV marking on verb.

- (1) *Malagasy promotion to pivot* (Paul, 2000: 9)

- a. *Nanapaka ity hazo ity tamin'ny antsy i Sahondra*
 PST.**AV**.cut this tree this PST.P.GEN.DET knife **Sahondra**
 'Sahondra cut this tree with the knife.'
- b. *Notapahin'i Sahondra tamin'ny antsy ity hazo ity*
 PST.**PV**.cut.GEN.Sahondra PST.P.GEN.DET knife **this tree this**
 'This tree was cut with a knife by Sahondra.'

In Balinese (2a), the agent *I* becomes the pivot, is moved to clause-initial position and the verb appears in AV form. In (2b), the theme *pig* becomes the pivot, triggering OV marking on the verb.

- (2) *Balinese promotion to pivot* (Arka, 2003: 5)

- a. *Tiang numbas bawi-ne punika*
 1SG **AV**.buy pig-DEF punika
 'I bought the pig.'
- b. *Bawi-ne punika tumbas tiang*
 pig-DEF that **OV**.buy 1SG

¹The typological parts of this section is the result of an ongoing collaboration with Yiannis Katochoritis (MIT) to whom I am incredibly thankful for his contributions, feedback, help and support in various ways. Most of the ideas presented here evolved from our joint work, parts of which are published in Lohninger and Katochoritis, to appear. All remaining errors are mine and Yiannis does not agree on everything I state here, particularly when it comes to the exact syntactic implementation of pivots.

'The pig was bought by me.' (own paraphrase)²

Syntactically, Balinese and Malagasy pivots seem to be elements between A'-like topics and A-subjects. Partly along the lines of Erlewine, Levin, and van Urk, 2017; 2019 (and, to some extent van Urk, 2015; Erlewine, 2018), I suggest that promotion to pivot in Balinese and Malagasy therefore is an A'/A operation, triggered by an [A'/A] probe in the left periphery and, in OV and PV constructions, an additional [A'/A] probe on Voice, inducing successive-cyclic A-movement. I suggest that [A'/A] stems from a topic-to-subject grammaticalization process in which a TopP projection and the canonical subject position (SpecTP) fuse into one projection (TopP+TP) whose specifier hosts an element that is both the subject and the topic (the pivot).³ Topic-to-subject lowering often goes hand-in-hand with passive formation; I suggest that this is also the case in Balinese and Malagasy. If an object moves to SpecTopP+TP, Voice is introduced as non-canonical passive head which simultaneously allows for topicalization and promotion to subject of the internal argument. In these cases, Voice, too, carries [A'/A].

The chapter is organized as follows: in section 7.2, I introduce the Austronesian voice system, focusing on the two languages under discussion, Balinese and Malagasy. In section 7.3, I suggest that pivots across Austronesian languages range from topic-like A'-elements to subject-like A-elements, with Balinese and Malagasy aligning in the middle of this scale. Their pivots constitute a mixture of subject- and topichood, resulting in an A'/A syntax. In section 7.4, I present an A'/A analysis for promotion to pivot in Balinese and Malagasy, based on composite probes in VoiceP and CP. The analysis broadly resembles the ones presented in van Urk, 2015 for Dinka and Erlewine, Levin, and van Urk, 2019 for Austronesian, although differs in some relevant technical details. Section 7.5 discusses the origins of composite probes in Austronesian, arguing that they are the result of ongoing language change and a topic-as-subject reanalysis. Section 7.6 depicts the empirical A'/A signature of Balinese and Malagasy, with a focus on OV/PV constructions, suggesting that they involve A-movement induced by [A'/•A•]. The presence of an [A'/A] probe is visible from information-structural effects, the restriction to ϕ -goals, and A'/A minimality; that this probe triggers A-movement is reflected in the absence of weak crossover, the inability to license parasitic gaps, the repercussion on case-licensing, the ability to feed subsequent A-movement as well as, to some degree, non-obligatory reconstruction effects (for principle C). The location of the [A'/A] probe on the CP phase edge enables long-distance promotion to pivot.

²Note that Austronesian examples are not uniformly paraphrased. This is the result of underlying assumptions what status the pivot obtains. Researchers assuming that pivots are topics paraphrase examples like topicalization, e.g. *the cat, the dog chased*. Researchers assuming that pivots obtain a subject function in the clause gloss it as *the cat was chased by the dog*. I changed most paraphrases to correspond to English passives; note that this does not translate directly to Austronesian syntax, I choose the English passive as translation for the sake of simplicity.

³There are some conceptual issues with the idea of fusing TopP and TP into one projection, as well as some issues in terms of pivot height; for example, in Malagasy, the pivot can outscope negation (Keenan, 2008) which indicates that it must end up in a position above TP. An alternative would be that the TopP projection alone carries [A] features and hosts the pivot whilst TP is separately projected and can be morphologically expressed, but lacks licensing properties. Thereby, TopP serves as subject licensing position whilst SpecTP remains empty.

7.2 The Austronesian voice system

Many Austronesian languages exhibit what is called a *voice-system*, and in each clause highlights one argument as more salient than the others. The highlighted argument is referred to as the *pivot* and its salient status is marked on the argument itself as well as via verbal morphology. The marking on the pivot DP is either expressed via morphology (e.g. the *ang*-marker in Tagalog) or via movement to a dedicated position in the clause (In Balinese, the pivot surfaces in clause-initial, in Malagasy in clause-final position). The pivot is cross-referenced via a specific morphological marking on the verb, termed *voice-marking* or *voice-morphology*, indicating which argument has been promoted to pivot. In Malagasy (3) we see that a transitive clause with an additional oblique can be expressed in three versions, each time promoting another element to pivot. In all three examples under (3), one argument is moved to clause-final position and cross-referenced by voice-marking on the verb (AV, PV or CV).⁴

(3) *Malagasy promotion to pivot* (Paul, 2000: 9)

- a. *Nanapaka ity hazo ity tamin'ny antsy i Sahondra*
PST.**AV**.cut this tree this PST.P.GEN.DET knife **Sahondra**
'Sahondra cut this tree with the knife.'
- b. *Notapahin'i Sahondra tamin'ny antsy ity hazo ity*
PST.**PV**.cut.GEN.Sahondra PST.P.GEN.DET knife **this tree this**
'This tree was cut with a knife by Sahondra.'
- c. *Nanapahan'i Sahondra ity hazo ity ny antsy*
PST.**CV**.cut.GEN.Sahondra this tree this **DET knife**
'(With) the knife was cut this tree by Sahondra.'

Balinese, on the other hand, moves its pivot to clause-initial position, shown in (4). Again, the choice of pivot is reflected in verbal morphology (AV vs. OV).

(4) *Balinese promotion to pivot* (Arka, 2003: 5)

- a. *Tiang numbas bawi-ne punika*
1SG AV.buy pig-DEF punika
'I bought the pig.'
- b. *Bawi-ne punika tumbas tiang*
pig-DEF that OV.buy 1SG
'The pig was bought by me.'

Voice-morphology falls in two types: *Philippine-type* voice and *Indonesian-type* voice. Philippine-type voice (Malagasy) distinguishes between three to four voices, whereas Indonesian-type voice (Balinese) exhibits only two voices, listed in table 7.1.

⁴The clause-final position of the pivot is standardly analyzed as pivot movement to a high position and subsequent extraposition of the whole remnant clause to the left (Pearson, 2001).

<i>Philippine-type</i>		<i>Indonesian-type</i>	
AV	Agent/Actor Voice	AV	Agent/Actor Voice
PV	Patient Voice	OV	Object Voice
LV	Locative Voice		
CV	Circumstantial Voice		
<i>Amis, Atayal, Cebuano, Kavalan, Malagasy, Paiwan, Puyuma, Seediq, Tagalog, Tsou,...</i>		<i>Acehnese, Balinese, Indonesian, Javanese, Madurese,...</i>	

TABLE 7.1: Austronesian Voice

The exact labeling of voices is subject to variation, and often depends the focus of research and the underlying background assumptions. PV is also referred to as TV (theme voice) or UV (undergoer voice), whereas AV may be short for either agent voice or actor voice, or alternatively be expressed as SV (subject voice). Terms like P(atient)V(oice) and A(gent)V(oice) misleadingly suggest that voice-marking tracks the θ -role of the pivot. Although in most cases this is true, there is no strict correspondence between thematic role and voice-morphology, as shown in table 7.2 for Philippine-type voice systems and table 7.3 for the Balinese-type voice system.⁵

Agent/Actor Voice	AV	Agent, theme (in unaccusatives), causer (in causatives), experiencer (in statives)
Patient Voice	PV	Theme (in transitives), causee (in causatives), recipient (in ditransitives)
Circumstantial Voice	CV	Instrument, benefactor, reason, cause, purpose, causand (in causatives), theme (in ditransitives), goal, source

TABLE 7.2: Philippine-type Voice in Malagasy, adapted from (Chen and McDonnell, 2019: 178)

Agent/Actor Voice	AV	Agent (in transitives and unergatives), causer (in causatives)
Object Voice	OV	theme & experiencer (in transitives and unaccusatives)

TABLE 7.3: Indonesian-type Voice in Balinese; adapted from Arka, 2019

A last property of the Austronesian voice-system are extraction restrictions; only the pivot can undergo extraction like *wh*-movement or focalization. This is shown in (5) for Balinese and (6) for Malagasy: the extracted argument must be cross-referenced by verbal morphology, otherwise the construction is ungrammatical.

- (5) *Balinese wh-extraction* (Erlewine, Levin, and van Urk, 2017: 389)
 a. *Apa beli Nyoman?*
 what OV.buy Nyoman

⁵Furthermore, AV is sometimes described as "default" voice, as often (but not always) occurs in underspecified or reduced contexts, such as restructuring clauses (Wurmbrand and Shimamura, 2017).

- 'What did Nyoman buy?'
- b. **Nyen montor anyar beli?*
 who car new OV.buy
 Int.: 'Who bought a new car?'
- (6) *Malagasy wh-extraction* (Paul, 1998: 384)
- a. *Inona no sasan-dRakoto amin'ny savony?*
 what FOC PV.wash-GEN.Rakoto with-the soap
 'What does Rakoto wash with the soap?'
- b. **Inona no manasa amin'ny savony Rakoto?*
 what FOC AV.wash with-the soap Rakoto
 Int.: 'What does Rakoto wash with the soap?'

Extraction restrictions will not be in the focus of this work; I shortly discuss them in section 7.4 but do not present a full-fledged, final analysis. The main question in this thesis is whether pivots in regular declarative clauses depict syntactic topics (A'-elements), subjects (A-elements) or both (A'/A-elements) and how we can determine and account for that.

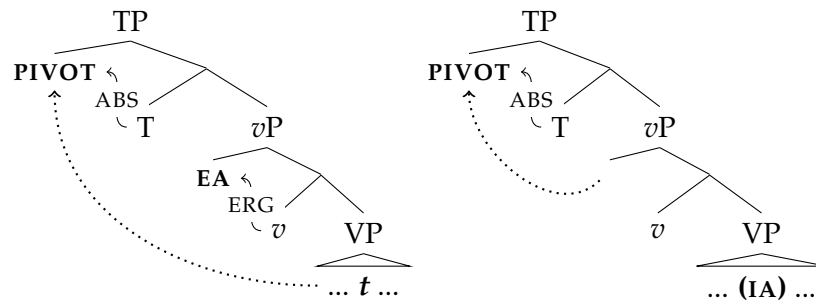
7.3 Pivots: between topics and subjects

The Austronesian voice system is subject to a long-standing discussion in syntactic literature, the richness of which I am not doing credit in this summary. One of the most debated questions is whether pivots are topic-like A'-elements or subject-like A-elements. This section briefly summarizes existing accounts (on Balinese and Malagasy) and how they classify pivots. While doing so, I broach on another (related) point of discussion, namely the question of whether Balinese and Malagasy show nominative-accusative or ergative-absolutive alignment. I assume that they are aligned in a nominative-accusative fashion (mainly following the argumentation in Erlewine, Levin, and van Urk, 2017). The main contribution of this section comes in the end: a typological investigation of "pivohood" across eight Austronesian languages (based on Lohninger and Katochoritis, to appear), arguing that pivots align on a scale, which ranges from topic-like elements to true subjects (cf. Patrianto and Chen, 2023a). Balinese and Malagasy are located in the middle of this scale.

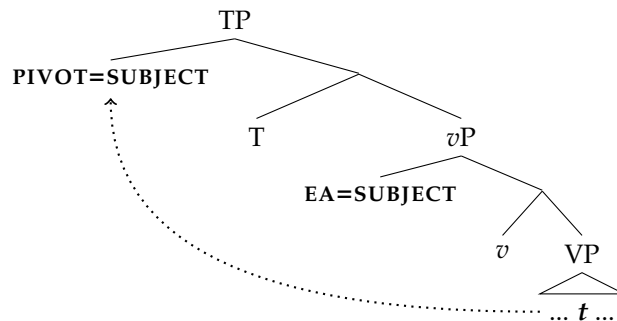
7.3.1 Existing approaches

One aspect that most accounts agree on is that promotion to pivots involves movement; the element that becomes the pivot is moved from its base-position to a structurally higher one (note that Pearson, 2005 and Travis, 2011 suggest that they are base-generated high). What is subject to debate is the exact landing-site of the pivot: that is whether it lands in SpecTP, or if it moves to a higher clausal position, CP. This, in most accounts, is correlated with the question whether pivots A- or A'-move.

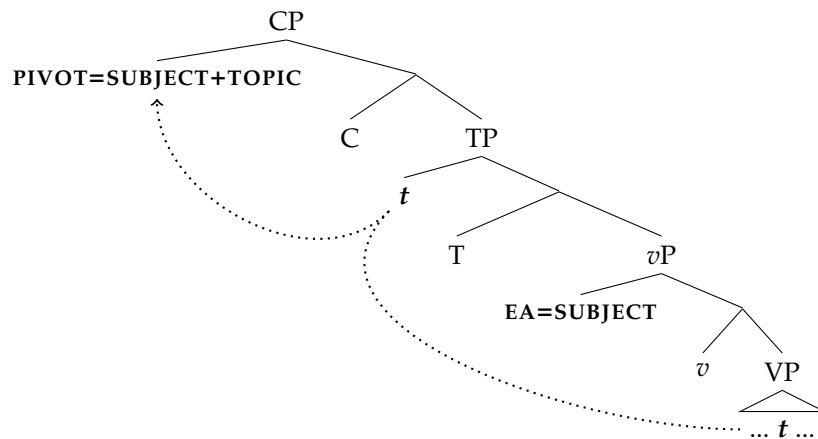
Let us start with Malagasy: accounts like Payne, 1982; De Guzman, 1988 or Aldridge, 2004 argue that Malagasy exhibits ergative alignment. Thereby, PV is the only true transitive structure, the theme pivot being the absolutive argument and the agent the ergative argument. AV is a form of antipassive, in which the agent is the absolutive and the object is a demoted oblique. The respective structures are presented in (7).

(7) *Full ergative approaches:*a. *AV = transitive**PV = antipassive*

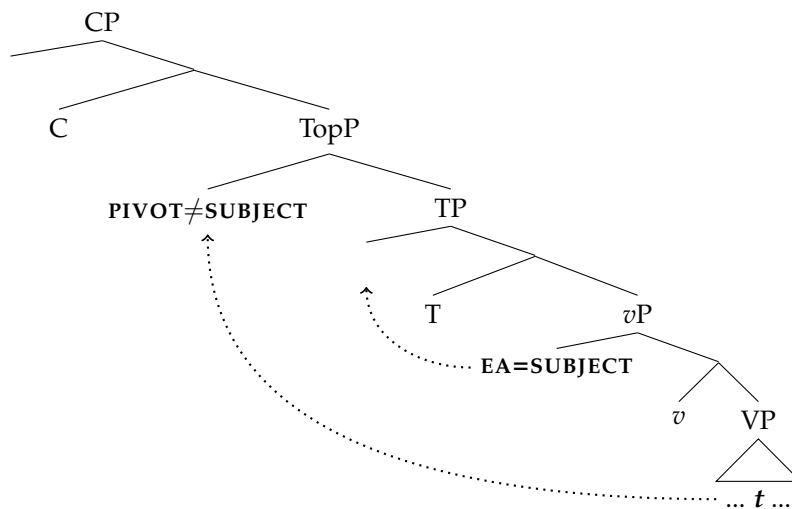
Another type of approach, pursued in Guilfoyle, Hung, and Travis, 1992 and Paul, 2000 (and to some extent Keenan, 1995), argues that Malagasy depicts nominative-accusative alignment and the pivot becomes the a subject by moving to SpecTP. In PV and CV, the pivot becomes the structural/derived subject, whilst at the same time, the agent remains the grammatical subject. Hence, CV and PV involve two subjects: a structural one (the pivot in SpecTP) and a grammatical one (the agent in SpecvP). Classical subjecthood properties like control, reflexive binding and formation of imperatives (Keenan, 1976; Dixon, 1994; Poole, 2015) are distributed onto the two elements. Thereby, PV resembles a form of passive formation (Paul, 2000): the internal argument becomes the new subject (whilst, unlike a canonical passive), the agent remains thematically selected; thereby, both are "subjects".

(8) *Two-subject approaches*

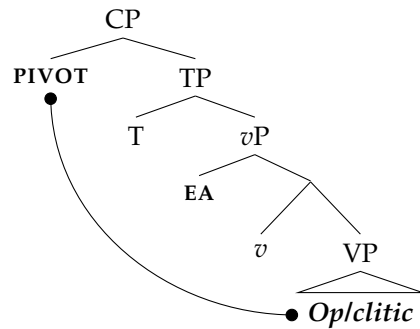
MacLaughlin, 1995 suggests a similar syntax, in which a PV pivot moves across the agent to SpecTP where it obtains subject-properties. In his account, however, the pivot undergoes subsequent obligatory movement to a higher A'-position, TopP, in the left periphery, whereby it also becomes a topic, shown in the structure below.

(9) *Two-step movement approaches*

Contrary to subjecthood accounts, Pearson, 2001 argues that pivots are topics, fronted to a left peripheral position (TopicP) below the complementizer but above the inflectional domain. In his approach, this fronting is regular A'-movement and voice morphology a form of wh-agreement. The external argument remains the subject, irrespective of what is promoted to pivot.

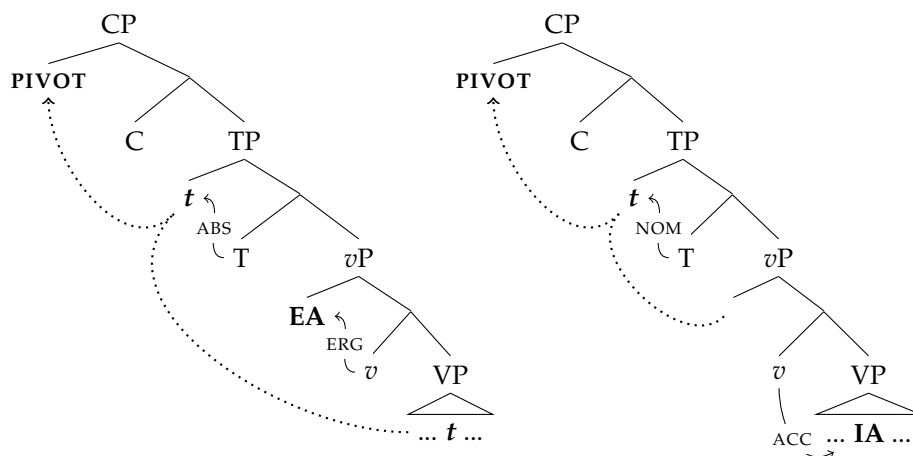
(10) *Topicalization approaches*

In a revised version of this approach, Pearson, 2005 suggests that instead of moving there, pivots are base-generated in the left periphery, similar to hanging topics. They are co-indexed with an operator in the corresponding thematic position; operator movement results in voice morphology. A related idea can be found in Travis, 2011, analyzing voice morphology as clitic left dislocation: the pivot is base-generated high, whereas voice-morphology is a form of clitic doubling in *vP*.

(11) *High base-generation approaches*

When comparing these accounts, the main points of discussion are i) are pivots A-moving subjects or A'-moving/ hanging topics and, as a consequence, ii) do they represent an alternation in argument structure, transitivity or information-structure?

A similarly wide range of accounts exists for Balinese pivots: Artawa, 1994 proposes that Balinese is (syntactically) ergative, thus pivothood corresponds to absolutive case marking. Wechsler and Arka, 1998; Arka, 2003 and Udayana, 2013 also base their accounts on ergativity, however add that the pivot not only receives unmarked case, but also becomes the subject of the clause, both in AV and OV. Relatedly, Levin, 2014b and Arka, 2019 suggest (similar to Guilfoyle, Hung, and Travis, 1992 for Malagasy) that Balinese OV expresses two subjects; the pivot and the agent. OV, in their accounts, is a mixture of a passive and an ergative structure. Similarly, Patrianto and Chen, 2023a propose that Balinese expresses split ergativity with obligatory topicalization: OV clauses show ergative alignment whereas AV clauses represent accusative alignment. In both cases the pivot moves to SpecTP for absolutive case, where it obtains subject properties.⁶ From SpecTP, it undergoes subsequent obligatory A'-movement to CP where it becomes a topic (similar to MacLaughlin, 1995 for Malagasy). Patrianto and Chen's account is represented in the structures below.

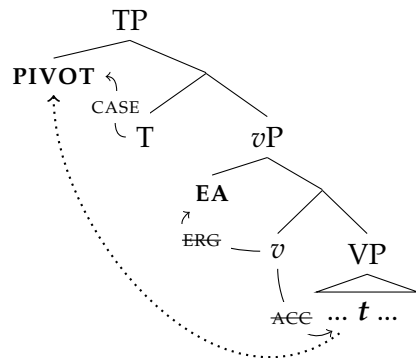
(12) *Split ergativity + obligatory topicalization approaches:*a. *OV: ergative*b. *AV: accusative*

Slightly different from the classical ergative approaches, Levin, 2014b suggests that Balinese OV is in between an ergative and a passive: it is ergative-like, in that the

⁶Later in this section I discuss that absolutive case marking and subjecthood are not the same thing; see, among many others, also Dixon, 1994; Polinsky, 2016; Ershova, 2019; Bobaljik, 2023.

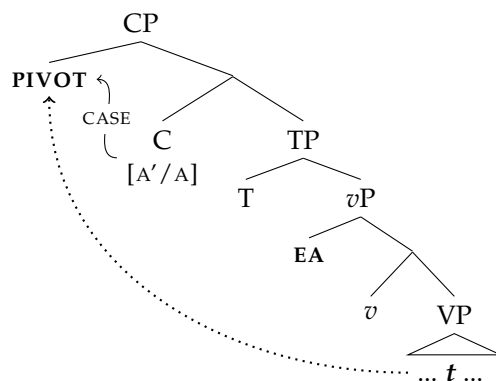
object receives unmarked case whilst the clause is still thematically transitive. Simultaneously, OV is passive-like, in that the verb neither assigns accusative to the object nor ergative case to the agent (in his account, the agent is licensed via last-resort verbal adjacency).

(13) *OV between ergative and passive approaches*



Finally, Erlewine, Levin, and van Urk, 2017; 2019 argue against ergative alignment for Balinese, and in favor of full accusative alignment. They propose that the pivot (in either voice) moves to a case-licensing position within CP. Thereby, pivots are A-elements within the left periphery, suggesting an A'/A syntax (as in van Urk, 2015). In their account, voice-morphology is a form of wh-agreement with the extracted pivot. They are not explicit whether the pivot becomes the structural subject.

(14) *Pivot as case-licensing in CP*



The variety of syntactic accounts, both for Balinese and Malagasy, already suggests that pivots possibly are neither clear A-elements, nor clear A'-elements and most likely stand somewhere between topic- and subjecthood. In section 7.4, I present a composite probe account that captures this inbetween status (related to the ones suggested in Levin, 2014b and Erlewine, Levin, and van Urk, 2019). Before proceeding to the analysis, I want to discuss case-alignment in Balinese and Malagasy as well as the grammatical function of their pivots in the context of other Austronesian languages.

7.3.2 Ergative or accusative alignment?

There is ongoing discussion in syntactic literature on whether Austronesian languages depict ergative-absolutive or nominative-accusative alignment; this is not only the case for Balinese and Malagasy but for most voice-marking Austronesian languages. In this thesis, and particularly for Balinese and Malagasy, I follow a nominative-accusative alignment (along the lines of Keenan, 1995; MacLaughlin, 1995; Guilfoyle, Hung, and Travis, 1992; Paul, 2000; Pearson, 2001; 2005; Chen, 2017; Erlewine, Levin, and van Urk, 2017; 2019; Bobaljik, 2023).⁷ My arguments stem from obligatory control⁸ as well as verb adjacency of non-pivot agents. Obligatory control is a prominent way to test whether an argument classifies as a subject (Keenan, 1976; Dixon, 1994; Poole, 2015): only subjects may function as controllee in control constructions (or, put differently, only subjects may be replaced by PRO). If in ergative languages (in transitive clauses), the ABS marked object would become a subject, we would expect it to be controlled. This prediction is not borne out: ergative languages consequently control the ergative external argument, never the absolutive object, abstractly depicted in (15).

- (15) a. DP(matrix) V [**PRO**_{ERG} V DP_{ABS}] ✓ *ERG is controlled*
 b. *DP(matrix) V [DP_{ERG} V **PRO**_{ABS}] × *ABS is controlled*

An ABS-marked object thus does not classify as a new or derived subject; it is always the ergative argument that obtains subjecthood status (see also Keenan, 1976; Dixon, 1994; Stiebels, 2007; Ershova, 2019). Take Tsez or West Circassian as examples; in both cases, the embedded ergative serves as controllee (that is corresponds to PRO), never the absolutive object. This is particularly striking in West Circassian where Ershova, 2019 argues convincingly that the object A-moves to SpecTP (across the external argument), thereby is the highest A-element, but still not the goal of control.

- (16) *Control in Tsez* (Polinsky, 2016: 319)

- a. *pro* [**PRO**_{ERG} *gulu* *b-exad-a*] *r-etin*
 1SG [**PRO**_{ERG} *horse.ABS.III* *III-slaughter-INF*].IV IV.want
 'I need to slaughter the horse.'

- (17) *Control in West Circassian* (Ershova, 2019: 254)

- a. *č'elejevaže-m* [**PRO**_{ERG} *č'alexe-r* *ø-ə-λəte-n-ew*] *rjəvež'ab*
 teacher-ERG [**PRO**_{ERG} *boy.PL-ABS* *3A-3SG-count*] *3SG.begin.PST*
 'The teacher began to count the children.'
 b. **č'alexe-m* [**PRO**_{ABS} *č'elejevaže-m* *ø-ə-λəte-n-ew*] *raβež'ab*
 boy-PL-ERG [**PRO**_{ABS} *teacher.ERG* *3A-3SG-count*] *3PL.begin.PST*
 Int.: 'The children began the teacher to count (them).'

If Balinese and Malagasy were ergative languages, the pivot in PV/OV would correspond to an ABS-marked object whereas the external argument would correspond to the ERG-argument. We would then expect that the external argument (ERG) is controlled, irrespective of whether the object becomes the pivot (ABS) or not. This prediction is not borne out: Balinese and Malagasy behave exactly opposed to that;

⁷Balinese might be in a stage of ongoing alignment change, as argued in Patrianto and Chen, 2023a; Lohninger and Katochoritis, to appear. Alignment change usually starts with split ergativity; thus OV might be a form of ergative alignment whereas AV is still nominative-accusative. I do not investigate this claim in more depth here.

⁸Thanks to J. Bobaljik, p.c. for pointing out these patterns to me in the first place,

both languages consistently control the pivot, not the external argument/ agent. This becomes evident if we look at control constructions where the embedded clause is expressed as OV/PV. In Malagasy (18a), the embedded pivot serves as controllee whereas the embedded agent (*doctor*) is overtly expressed. Controlling the agent in the presence of another pivot is ungrammatical, as shown in (18b): there, the agent is controlled whereas the embedded pivot (*house*) remains overt. If the (theme) pivot would correspond to an absolutive argument, we would expect control to behave exactly the other way around, namely that control targets the agent (which would then be the ergative subject). Controlling the agent is only possible when the embedded clause is AV marked, that is when the agent also corresponds to the pivot, see (18c).

(18) *Malagasy pivot control* (Potsdam, 2009: 761)

- a. *nanery ny zaza* [**PRO** *h-ozahan'* *ny dokotera*] *aho*
force.AV the child [**PRO**_{piv} IRR-examine.PV the doctor_{agent}] 1SG.DFLT
'I forced the child to be examined by the doctor.'
- b. **nanery ahy* [**PRO** *hofafana trano*] *i Mery*
force.AV 1SG.ACC [**PRO**_{agent} sweep.PV **house**_{piv}] Mary
Int.: 'Mary forced me to sweep the house.'
- c. *nanery ahy* [**PRO** *h-amafa trano*] *i Mery*
force.AV 1SG.ACC [**PRO**_{piv+agent} IRR-sweep.AV house] Mary
'Mary forced me to sweep the house.'

The same is true for Balinese. A theme pivot can be controlled in the presence of an overt external argument, (19a), whereas controlling the external argument whilst another argument is promoted to pivot is ungrammatical, (19b). Controlling the external argument is only possible when it corresponds to the pivot, as in the AV clause (19c).

(19) *Balinese pivot control*

(own elicitation; see Arka, 2003; Udayana, 2013 for similar examples)

- a. *Ia majanji* [**PRO** *periksa dokter*]
3SG AV.promised [**PRO**_{piv} OV.examine doctor_{agent}]
'She promised to be examined by a doctor.'
- b. **Ia majanji* [*dokter periksa PRO*]
3SG AV.promised [**doctor**_{piv} OV.examine **PRO**_{agent}]
Int.: 'She promised to examine a doctor.'
- c. *Ia majanji* [**PRO** *meriksa dokter*]
She promised [**PRO**_{piv+agent} AV.examine doctor]
'She promised to examine a doctor.'

This behavior is highly unexpected if pivothood solely corresponded to absolutive case-marking; what we observe in Balinese and Malagasy voice-alternations patterns more with what we see in passive constructions (which allow to change subjecthood properties and thereby control patterns) than what we observe from ergatives (where unmarked case has no influence on subjecthood or control). Note that neither Balinese nor Malagasy show a finiteness distinction in embedded clauses; along the lines of Landau, 2004, I assume that control constructions are not limited to non-finite clauses but can just as well reach into tensed complements.

A second argument against ergativity is the behavior of non-pivot agents: in voices other than AV (that is OV in Balinese and PV or CV in Malagasy) the non-pivot agent needs to be strictly right-adjacent to the verb. All intervening material

between the agent and the verb is prohibited (see Keenan, 2000; Paul, 2000; Pearson, 2005; Levin, 2014a; 2015; Erlewine, Levin, and van Urk, 2017; 2019). Levin, 2014b; 2015; Erlewine, Levin, and van Urk, 2017; 2019 (along the lines of Baker, 1988; 2008) interpret this as a form of last-resort case-licensing, arguing that in OV/PV there is no other source of licensing option for the agent. If OV/PV was a true ergative structure, this behavior is unexpected since the agent would receive ergative case and should be licensed independently of adjacency. Balinese adjacency is depicted in (20), showing that no material can intervene between agent and the OV verb. (21) shows the same for Malagasy.

(20) *Balinese adjacency of non-pivot agents* (Wechsler and Arka, 1998: 405)

- a. *siap-e* [*uber* *cicing*] *ke jalan-e*
 chicken-DEF [*OV.chase dog*] into street-DEF
 'The chicken was chased into the street by a dog.'
- b. [*uber cicing*] *ke jalan-e siape-e*
- c. * [*uber siap-e cicing*] *ke jalan-e*
- d. **siap-e* [*uber ke jalan-e cicing*]

(21) *Malagasy adjacency of non-pivot agents* (Pearson, 2005: 392)

- a. [*Nohanin'* *ny gidro*] *haingana ny voankazo omaly*
 [*PST.PV.eat DET lemūr*] quickly DET fruit yesterday
 'The fruit was quickly eaten by the lemur yesterday.'
- b. * [*Nohanin(a) haingana ny gidro*] *ny voankazo omaly*
- c. * [*Nohanin(a) omaly ny gidro*] *haingana ny voankazo*

Note that in Malagasy, the non-pivot agent also receives genitive case (additional to its adjacency). GEN is expressed via insertion of a nasal consonant between the verb and the adjacent noun whilst simultaneously the final *-na*, *-ka* or *-tra* of the verb is dropped (Paul, 2000: 14).

(22) *toro+N+ny olona = toron'ny olona*
 shown+GEN+DET people
 'shown by the people' (Paul, 2000: 14)

Independent of Austronesian, insertion of genitive on the external argument is often assumed to be a form of last-resort case when no structural/lexical case is available (see also Dixon, 1994; König, 2006; Halpert, 2012; Imanishi, 2014; Levin, 2015; van Urk, 2015).⁹

One potential argument in favor of ergativity, at least in Balinese, is that unaccusatives are OV marked, see (23a). This could indicate that OV is in fact an ergative structure, representing ABS marking on either the transitive object or an intransitive subject. This argument is again weakened by the fact that Balinese unergatives are AV marked (which is unexpected under an ergative analysis), see (23b).

(23) *Balinese unaccusatives and unergatives*

- a. *Ia pules*
 3SG OV.sleep
 '(S)he slept.' (Udayana, 2013: 3)

⁹On the other hand, ergative case marking in some languages may be expressed via a genitive form (Polinsky, 2016). Thus, the GEN marking of the non-pivot agent in Malagasy might be captured under an ergative analysis too. Still, this does not account for the adjacency requirement.

- b. *Ida nangis*
 3SG AV.cry
 '(S)he cried.'
 (Arka, 2019: 260)

Example (23a) could be taken as argument for ergativity on one hand; on the other hand these examples could also indicate that voice-marking tracks which argument has been promoted to subject (i.e. whether it came from inside VP or from SpecVoiceP; see Cole, Hermon, and Yanti, 2008 for a related idea in Indonesian) or that an OV verb resembles a passive head, the sole duty of which is to move the object out of VP (see Levin, 2014b for a related idea). In the section 7.4, I will argue in favor of the latter, namely that OV/PV verbs resemble (non-canonical) passives and thereby OV/PV voice marking solely indicates whether the internal argument was raised to subject. Under such an analysis, OV marking in unaccusatives and AV marking in unergatives is to some degree expected; OV Voice is used when the internal argument is moved (as in unaccusatives), AV Voice is used when the external argument is promoted (as in unergatives).¹⁰

A last argument against Balinese OV being ergative might be found in the frequency of OV compared to AV. As noted in Pastika, 1999, Balinese OV is much less frequently used in discourse; out of 851 transitive clauses, only 38% are OV marked, whereas the other 62% exhibit AV marking. In a full ergative analysis, this is unexpected: in such an analysis, AV depicts an antipassive structure. Usually, antipassives are used very seldomly in discourse, as known from other ergative languages. In a split ergative analysis, where AV shows accusative alignment and OV ergative alignment, we probably would expect something like a half-half-distribution, which is also not the case. The actual distribution correlates more with what we expect from an active-passive division.

Put together, I follow Keenan, 1995; MacLaughlin, 1995; Guilfoyle, Hung, and Travis, 1992; Paul, 2000; Pearson, 2001; 2005; Chen, 2017; Erlewine, Levin, and van Urk, 2017; 2019; Bobaljik, 2023 and assume that Balinese and Malagasy depict a nominative-accusative alignment instead of an ergative-absolutive one. As a consequence, promotion to pivot is not solely an instance of ABS-marking but rather an operation that affects and alternates subjecthood. Notably, however, pivots do only alternate subjecthood but also come with information-structural effects; to some degree, they resemble topics, irrespective of their subject-status (see Pearson, 2001; Pearson, 2004). The next section investigates to what degree pivots resemble topics and/or subjects, not only in Balinese and Malagasy, but in a broader set of Austronesian languages. The result will be that that pivothood is not a uniform phenomenon; rather, pivots range on a scale from A'-like topics to A-like subjects, with Balinese and Malagasy being located in the middle of this scale.

7.3.3 Typology of pivots

When taking a closer look at pivots across different Austronesian languages, it becomes clear that they do not all exhibit the same syntax, grammatical status nor A'- or A-properties (see also Chen and McDonnell, 2019; Patrianto and Chen, 2023a) In Lohninger and Katochoritis, to appear, we propose that pivots range from topic-like

¹⁰Note that in Lohninger and Katochoritis, to appear we follow Patrianto and Chen, 2023a and suggest that the passive-like structure of OVs might be on the verge of being reanalyzed as ergative, with agent-verb adjacency being interpreted as a form of ergative licensing (Brodin, 2022). Thus PV/OV is somewhere inbetween a passive and an ergative, and to some degree exhibits properties of both. I do not investigate alignment change in this thesis but refer the interested reader to Aldridge, 2024 for an in-depth study based on Austronesian.

A'-elements to subject-like A-elements, summarized in table 7.4. Table 7.4 shows that Austronesian pivots differ in what is targeted by control (the pivot or agent), whether there are obligatory definiteness/ information-structural requirements imposed on the pivot, whether its movement resembles A'- or A-movement (reflected in reconstruction effects and WCO) and last, whether there is an adjacency requirement on the non-pivot agent.

	LANGUAGE	Control	Definiteness	Reconstruction	WCO	Non-pivot agent
A'-topic	Tagalog	agent	✓	✓	×	free
A'-topic	Cebuano	agent	✓	✓		free
A'-topic	Madurese	agent	✓	✓		free (?)
A'/A	Balinese	pivot	✓	✓	×	adjacent
A'/A	Malagasy	pivot	✓	×	×	adjacent
A-subject	Acehnese	pivot	×	×	×	adjacent
A-subject	Indonesian	pivot	×	×	×	adjacent

TABLE 7.4: Typology of Austronesian pivots; adapted from Lohninger and Katochoritis, to appear

The data/references on which this table is based is listed below.

- **Tagalog**: Kroeger, 1993; Schachter, 1976; Richards, 2000; Rackowski, 2002; Rackowski and Richards, 2005; Aldridge, 2008; Richards, 2013; Chen, 2017
- **Cebuano**: Bell, 1976
- **Madurese**: Davies, 2005; Davies, 2010
- **Balinese**: Arka and Manning, 1998; Wechsler and Arka, 1998; Arka, 2003; 2008; 2012; 2019; Levin, 2014a; 2014; 2015; Erlewine, Levin, and van Urk, 2017; 2019; Satik, 2022; Patrianto and Chen, 2023a; Satik and Bryant, 2023, own elicitation
- **Malagasy**: Keenan, 1976; Travis, 1998; Paul, 2000; 2002; Pearson, 2001; 2005; Polinsky and Potsdam, 2002; 2004; 2007; Koopman, 2005; Ntelitheos, 2013; Randriamasimanana, 2007; Potsdam, 2009; own elicitation
- **Acehnese**: Durie, 1986; 1987; Legate, 2012; 2014; Patrianto and Chen, 2023a
- **Indonesian**: Cole and Hermon, 2005; Cole, Hermon, and Yanti, 2008; Polinsky and Potsdam, 2008; Arka, 2014; Winarto, 2017; Patrianto and Chen, 2023a

This thesis does not provide enough space to present examples for each language listed in table 7.4, thus I will only present some exemplary cases of the languages high on the table and the ones low on the table. These two are not the main focus of this chapter; the main aim of presenting them is in order to localize Balinese and Malagasy within the larger language family.

The properties listed in table 7.4 correlate with each other: languages high on the table (Tagalog, Cebuano and Madurese) control the embedded agent, irrespective of pivot-marking. This is distinct from what we already saw in Balinese and Malagasy but expected if we assume that the pivot in these languages is more topic-like whilst the agent remains the subject, even in OV/PV. At the same time, their pivots need to receive a definite/specific interpretation, and tend to reconstruct for principle C,

thus show further hallmarks of being an A'-topic. Further, non-pivot arguments (particularly agents) do not need to occur strictly adjacent to the verb. Only weak crossover effects do not pattern as expected: Tagalog obviates WCO in promotion to pivot, suggesting that the pivot must involve A-movement properties.¹¹ The relevant examples are listed below.

- (24) *Tagalog controls agent, not pivot* (Dell, 1981: 390; Kroeger, 1993: 37)
- a. *Nagatubili siya=ng* [PRO *hiramin ang pera*]
 PFV.AV.hesitated he=C [PRO_{agent} **PV**-borrow **PIV** money_{piv}]
 'He hesitated to borrow the money.'
- b. **Nagatubili si Maria=ng* [*bigy-an PRO ng pera ni Ben*]
 PFV.AV.hesitate PIV Maria=C [give-PV **PRO**_{piv} GEN money GEN Ben]
Ben_{agent}]
 Int.: 'Maria hesitated to be given money by Ben.'
- (25) *Tagalog pivot must be definite/specific* (Rackowski, 2002: 76)
- a. *m-ag-luluto ang lalaki ng adobo para sa asawa*
 <AV>ASP.cook **PIV** man GEN adobo P DAT spouse
 "The/*a man will cook adobo for his wife." (glosses adapted)
- (26) *Tagalog pivot reconstructs for principle C* (Richards, 2013: 419)
- a. *M<in>amahal* [ng nanay ni Juan_i] [*ang anak ng pating na iyan*]_i
 <PV>loves [GEN mother GEN Juan_i] [**PIV** child GEN shark LI **that**]_i
 'The bastard_i, Juan_i's mother loves.'
- (27) *Tagalog pivot does not induce WCO* (Chen, 2017: 186; Rackowski, 2002: 42)
- a. **Nagmamahal ang kanyang_i ama ng bawat anak_i*
 AV-loves **PIV** his father GEN every child
 Int.: 'His_i father loves every child_i.'
- b. *m<in>amahal ng kangyang_i ama ang bawat anak_i*
 <TV.PRF>love GEN 3SG.POSS father **PIV** every child
 'Every child_i, his_i father loves.'
- (28) *Tagalog non-pivot agent does not need to be verb-adjacent* (Kroeger, 1993)
- a. *Sinulat (ni=Juan) ang=liham (ni=Juan)*
 PERF-write-OV (GEN=Juan) PIV=letter (GEN=Juan)
 'Juan wrote the letter.'

¹¹Note that Tagalog appears to contradict the A'/A signature in that it simultaneously lacks WCO effects but reconstructs. It could be Tagalog promotion to pivot involves A-movement too but does not change subjecthood, see Rackowski, 2002; Richards, 2000 (similar to Dinka presented in chapter 8). As noted in chapter 5, I do not take the presence of reconstruction effects as strong diagnostic for A'-movement. A-movement does not need to reconstruct but can do so, thus if an element can reconstruct, this does not necessarily indicate that it had A'-moved. Another way to explain WCO in Tagalog could be that pivots A'-move and WCO stems from an initial A-scrambling operation, prior to topicalization (Tagalog is very permissive in terms of clause-internal scrambling).

In languages on the bottom of table 7.4 (Acehnese and Indonesian), pivots behave like true subjects; this is reflected in obligatory control (it is always the embedded pivot that corresponds to PRO) and the lack of definiteness requirements or a specific information-structural interpretation of the pivot. Further, neither Acehnese nor Indonesian pivots show any indication of A'-movement; they do not reconstruct¹² nor induce WCO. Last, both languages require their non-pivot agents in OV to be strictly adjacent to the verb.

(29) *Indonesian controls the pivot, not the agent* (Arka, 2014: 5)

- a. *Aku menyuruh=nya* [PRO *menjual mobil itu*]
 1SG AV.ask=3SG [PRO_{piv} AV.sell car that]
 'I asked him/her to sell the car.'
- b. **Aku menyuruh=nya* [*mobil itu* PRO *jual*]
 1SG AV.ask=3SG [*car*_{piv} that PRO_{agent} OV.sell]
 Int.: 'I asked him/her to sell the car.'

(30) *Acehnese pivot does not need to be definite* (Patrianto and Chen, 2023a: 11)

- a. *Padum-droe aneuk mit ji-baca buku*
 several/some-CLF youngster small 3SGFAM.AV-read book
 'Several kids read a/some books.'
- b. *Padum-boh poto lon cok ngen kamera*
 several/some-CLF photo 1SG OV.take with camera
 'Some photos were taken by me with a camera.'

(31) *Indonesian pivot does not reconstruct for variable binding* (Winarto, 2017: 1)

- a. **Anaknya sendiri_i akan siapapun_i cintai*
 child.his self FUT whoever love.OV
 Int.: 'His_i own child will be loved by anyone_i.'

(32) *Acehnese pivot does not induce WCO* (Legate, 2014: 14)

- a. **Aneuk geuh_i geu-lindong tieptiep mak_i*
 child 3POL 3POL.AV-protect every mother
 Int.: 'Her_i child protects every mother_i.'
- b. *Tieptiep aneuk_i mak droe-jih_i lindong*
 every child mother self-3FAM OV.protect
 'Every child_i is protected by his/her_i.'

(33) *Indonesian non-pivot agent needs to be verb-adjacent*

(Cole and Hermon, 2005: 62,63)

- a. *Buku ini tidak akan kami baca*
 book this NEG will we [OV].read
 'This book will not read be read by us.'
- b. **Buku ini (*kami) tidak (*kami) akan baca*

¹²Reconstruction effects are a bit more complex than indicated; I present an example from reconstruction for variable binding since there are no clear examples for reconstruction for principle C.

Finally, there are two languages in between these two poles, depicted in the middle of the table; Balinese and Malagasy. In these two, pivots appear to be somewhere between topic- and subjecthood. Both languages control the pivot in obligatory control constructions but at the same time require pivots to receive a definite or specific interpretation, indicating that promotion to pivot triggers some sort of information-structural effect. Promotion to pivot obviates WCO, but exhibits mixed values with respect to reconstruction effects. Last, the non-pivot agent needs to be strictly adjacent to the verb. I discuss the Balinese and Malagasy data in detail in section 7.4.

In Lohninger and Katochoritis, to appear (following Patrianto and Chen, 2023a), we take the micro-variation in Austronesian pivots to be an argument that pivots do not depict a uniform syntactic phenomenon; rather, they form a cline from A'-topics to A-subjects, with single languages aligning at different stages thereof. We argue that this topic-to-subject cline stems from an ongoing topic-to-subject grammaticalization/reanalysis process, in which A'-topics lower within the syntactic structure and become subject-like elements. Topic-to-subject grammaticalization, cross-linguistically, often goes hand in hand with an active-as-passive reanalysis (Van Gelderen, 2022): this means, if an object-topic is reanalyzed as subject, then the whole clause is interpreted as passive(-like). I argue that Balinese and Malagasy are in the middle of such a reanalysis process, resulting in a mixed A'/A syntax for pivots and a mixed passive/active syntax for OV/PV verbs. In the next section, 7.4, I present a syntactic implementation of these claims. The subsequent section 7.5 returns to the ongoing topic-to-subject grammaticalization process and how it may account for the presence of [A'/A] probes on phasal C and Voice.

7.4 An A'/A syntax for Balinese & Malagasy pivots

In this section, I present a syntactic analysis of Balinese and Malagasy pivots couched in a composite probe framework (partly along the lines of Erlewine, Levin, and van Urk, 2019). I propose that pivots are attracted by an [A'/A] probe on C, and undergo A-movement to the left periphery. In PV/OV, there is an additional [A'/A] probe on Voice, allowing the object to A-move across the external argument and become accessible to C. I lay particular focus on PV/OV constructions, for which I suggest that they behave like a non-canonical passives: an OV/PV verb is thematically transitive, that is introduces two arguments, however, lacks the ability to (ACC-)license its internal argument or (ERG-)license its external argument. Thereby, it constitutes a form of non-canonical passive head (Levin, 2014b; Legate, 2021).

Let us start with the distribution of A'- and A-properties in Balinese and Malagasy promotion to pivot, summarized in table 7.5. The properties "φ-agreement" and "creation of new antecedents for anaphor binding" lack values; for the former ones, neither Balinese nor Malagasy depict overt φ-agreement, for the latter one; Austronesian languages tend to disallow anaphors embedded in agents in general (Brodкин and Royer, 2024), and I do not have data showing the effect clearly.

	A-mvt	A'-mvt
restricted to noun phrases/ ϕ -elements	+	–
interacts with ϕ	+	–
interacts with case	+	–
can bypass intervening DPs (minimality)	–	+
can proceed across CP boundary	–	+
creates new antecedents for anaphor binding	+	–
induces weak cross-over	–	+
licenses parasitic gaps	–	+
must reconstruct	–	+
can feed into A-movement (BIM)	+	–
info-structural/ clause-typing effects	–	+

TABLE 7.5: The Balinese/Malagasy *A'/A* distinction

The simultaneous presence of a restriction to ϕ -goals, *A'*-minimality and information-structural effects indicates the presence of an [*A'/A*] probe in pivot promotion. The clustering of case, weak crossover, the lack of parasitic gap licensing, the ability to feed subsequent A-movement and, to some degree, the lack of reconstruction effects, suggests that promotion to pivot is an A-movement chain. Last, embedded pivots may become matrix pivots, that is, the movement operation can span a clause-boundary, which supports a high location of the movement-inducing probe (at the CP phase edge).¹³ The empirical data on which the *A'/A* signature in table 7.6 is based are presented in the last section of this chapter, 7.6.

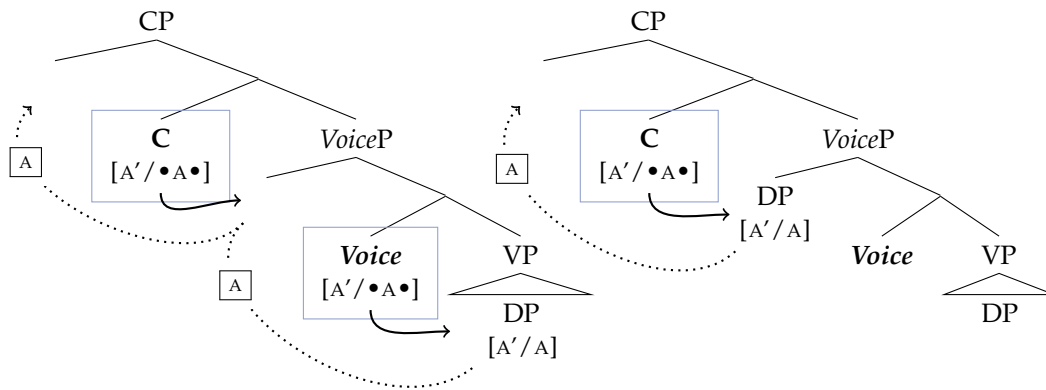
case	WCO	anaph. bind.	PG	feeds A-mvt	(re-constr.)	info-struct. effects	ϕ -goal	feeds ϕ -agree	Minimality	can cross CP
✓	×	n/a	×	✓	✓/×	✓	✓	n/a	<i>A'/A</i>	✓?
$\underbrace{\hspace{10em}}$ <i>movement = A</i>						$\underbrace{\hspace{10em}}$ <i>probe = [<i>A'/A</i>]</i>				<i>[A'/A]</i> <i>on</i> <i>Voice</i> <i>+ C</i>

TABLE 7.6: Balinese and Malagasy pivots

As for the syntactic derivation of promotion to pivot, I propose that pivots in Balinese and Malagasy land in a position within the left periphery, attracted by an [*A'/A*] probe on C. In OV/PV, there is an additional [*A'/A*] probe on Voice, enabling the internal argument to leave VP and become the pivot in two movement steps (similar to Aldridge, 2004; Brodtkin, 2022). The left structure under (34) depicts a simplified version of the syntax for OV/PV, which will stand in the center of the discussion. In AV, the same happens without the first movement step to VoiceP, shown in the structure to the right.

¹³Note that long-distance promotion to pivot is not as straightforwardly A-movement as it is, for example, in Dinka. I talk about cross-clausal promotion to pivot in more detail in 7.6.3.

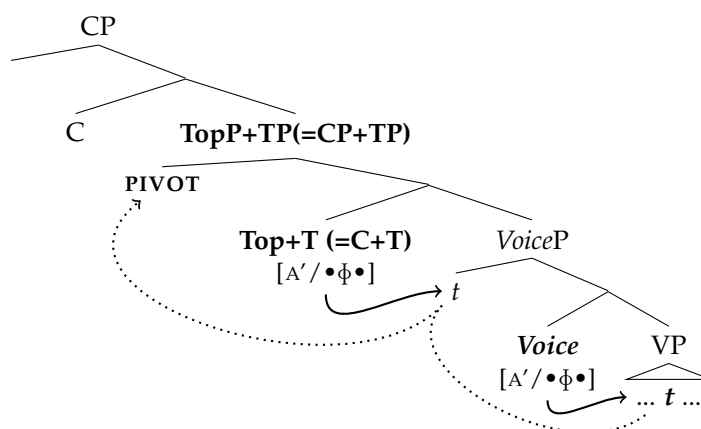
- (34) a. OV/PV voice (simplified) b. AV voice (simplified)



7.4.1 In a nutshell

An OV/PV construction is derived as follows: first, [A'/ ϕ] on Voice selects a DP in its commanding domain and moves it to SpecVoiceP. There, it is accessible to a higher [A'/ ϕ] in the left periphery; in a second step, the pivot is attracted by this higher probe. I suggest that the exact location of the higher [A'/A] probe is a fusion of a topic CP projection and TP. The fusion of TopP, equipped with an [A'] feature [top], and TP carrying [ϕ] renders a head Top+T, equipped with a composite probe [TOP/ ϕ]. The collapsed projection TopP+TP is the result of the ongoing subject-to-topic grammaticalization process in Balinese and Malagasy. Structurally, topic-to-subject grammaticalization has been analyzed as incremental lowering of the topic down the CP spine, towards TP (Lightfoot, 1979; 2003; Walkden, 2012); I suggest that this is what is happening in Balinese and Malagasy too (see section 7.5 for more details). TopP+TP thereby collapses the structural subject position, SpecTP, with a left-peripheral information-structural position, SpecTopP, depicted in (35). For the sake of simplicity, in most cases of this chapter, I refer to the fused projection as CP+TP and to its head as C+T (instead of TopP+TP).¹⁴

- (35) Fused TopP + TP as pivot landing site



¹⁴There are some questions this analysis leaves open which I address in chapter 9, as part of the open ends.

Note that both Balinese and Malagasy lack overt ϕ -agreement; for the sake of consistency, I still indicate the [A] features as [ϕ] (similar to Chen, 2023 for Mandarin Chinese). The notion is to be interpreted as "abstract [ϕ]", selecting for a class of goals that constitutes ϕ -goals (DPs, CPs) and inducing A-movement.¹⁵

AV differs from OV/PV constructions in the following way: Whilst both AV and OV/PV exhibit an [A'/A] probe on C+T, they differ in their licensing options and featural make-up of the Voice head. OV/PV Voice is a form of non-canonical passive head; it is thematically transitive but cannot license any of its arguments. As a result of its passive-like nature, OV/PV Voice carries an [A'/A] probe, which both A-moves and topicalizes the object to SpecVoiceP (from where it becomes accessible to C+T). AV Voice, on the other hand, is a fully transitive head: it licenses its object and lacks an [A'/A] probe, thus cannot A-move its object to SpecVoiceP. Thereby, promotion to pivot in AV lacks the first movement step to SpecVoiceP. The two versions of the Voice head are summarized in (36). The licensing options are indicated as +/-ACC; nothing hinges on this terminology, it solely indicates that Voice can(not) license its internal argument.

- (36) a. **AV:** Voice licenses the IA and lacks an [A'/A] probe
 $\Rightarrow$ AV: +ACC, [A'/A]
 b. **OV/PV:** Voice does not license the IA and carries an [A'/A] probe
 $\Rightarrow$ OV/PV: -ACC, [A'/A]

Based on this broad idea, the following two subsections present an exact syntax for OV/PV and AV configurations in Balinese and Malagasy. Malagasy CV is only discussed later in this chapter.

7.4.2 Object Voice/ Patient Voice

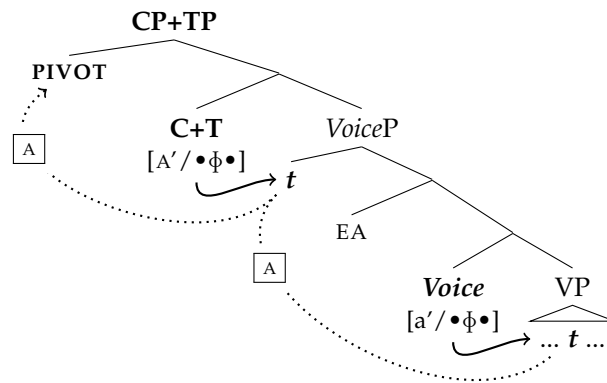
Let us start with OV/PV configurations in which an internal argument is promoted to pivot, depicted in (37).

- (37) a. *Notapahin'i Sahondra tamin'ny antsy ity hazo ity*
 PST.PV.cut.GEN.Sahondra PST.P.GEN.DET knife this tree this
 'This tree was cut by Sahondra with a knife.' *Malagasy* (Paul, 2000: 9)
 b. *Bawi-ne punika tumbas tiang*
 pig-DEF that OV.buy 1SG
 'The pig was bought by me.' *Balinese* (Arka, 2003: 5)

I suggest that the examples (37) have the underlying structure in (38).

¹⁵Nothing hinges on the probe being [ϕ] here, the analysis works just as well if we replace it with [D] or alike.

(38) Promotion to pivot in OV/PV



As argued above, I assume a nominative-accusative alignment for OV/PV (instead of an ergative-absolutive one). Based on the pivot-typology in section 7.3.3, I also assume that Balinese and Malagasy pivots are neither pure topics, nor pure subjects; at the same time, their OV/PV verbs are neither full transitives, nor full passives. The question arises, what does an OV/PV sentence like (39) translate to?

(39) DOG(agent) CHASE.OV/PV CAT(theme+pivot)

The pivot is not a pure topic, given its subject-like properties (e.g. control), thus OV/PV does not translate to (40).

(40) **The cat**, the dog chased.

The pivot is also not the absolutive argument of an ergative structure, based on the arguments that i) pivots can be controlled and ii) non-pivot agents need to be verb-adjacent, which is surprising if they are lexically licensed by ERG. Thus, OV/PV also does not correspond to (41).

(41) **The cat.ABS** the dog.ERG chased.

OV/PV constructions are also not full passives. This is evident from two properties: first, the non-pivot agent is not demoted, surfaces as a core argument of the verb and is interpreted as such. Second, many Austronesian languages exhibit dedicated passive constructions additional to OV/PV, in which the agent is demoted to a by-phrase and passive morphology appears on the verb. The Balinese passive, for instance, is expressed by an *-a* suffix, (42b) or a *ka*-prefix, (42c) on the verb, and its agent is introduced by a *by*-phrase. Opposed to that, OV (42a) occurs without an affix and express the agent as core argument (without a *by*-phrase).

(42) Balinese passive versus OV (Arka, 2003: 242)

- a. *Nika tang rambang tiang*
that NEG OV.think 1SG
'I did not think of/ imagine that.' OV
- b. *Nto tusing rambang-a teken I Nyoman*
that NEG think-PASS by Nyoman
'That was not considered by Nyoman.' -a passive
- c. *Nto tusing ka-rambang baan I Nyoman*
that NEG PASS-think by Nyoman

'That was not considered by Nyoman.'

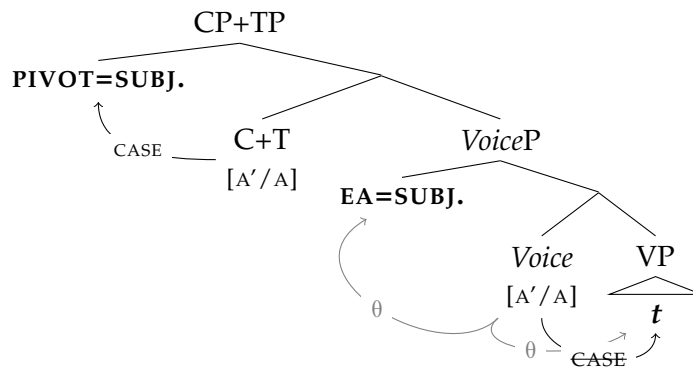
ka-passive passive

Thus, I suggest OV/PV also does not correspond to a canonical passive structure like (43).

(43) **The cat** was chased (by the dog).

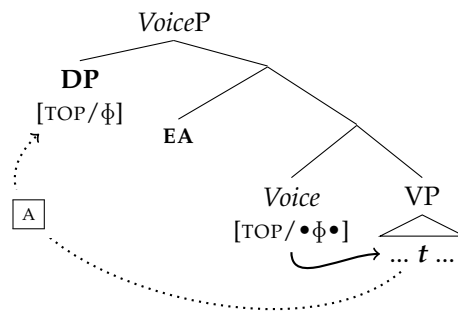
What is an OV/PV structure then? I propose that in OV/PV, Voice is merged as a sort of non-canonical passive head, similar to what Levin, 2014b proposes for Balinese, Erlewine and Sommerlot, 2023 for Malayic and Legate, 2014 for Acehnese. This head is thematically transitive but intransitive in terms of nominal licensing: it introduces two thematic arguments but cannot license either of them. As part of its passive-like nature, it is merged with an A-movement inducing probe, allowing for the internal argument to move out of VoiceP to a higher position where it can be licensed as subject. At the same time, the external argument is not demoted but remains a core argument (licensed by last resort verbal adjacency, see later). This renders a structure with two subjects, a grammatical one in SpecVoiceP and a derived one in the SpecCP+TP (along the lines of Guilfoyle, Hung, and Travis, 1992; Paul, 2000; Arka, 2019). The structure is depicted in (44).

(44) *The non-canonical passive nature of OV/PV Voice*



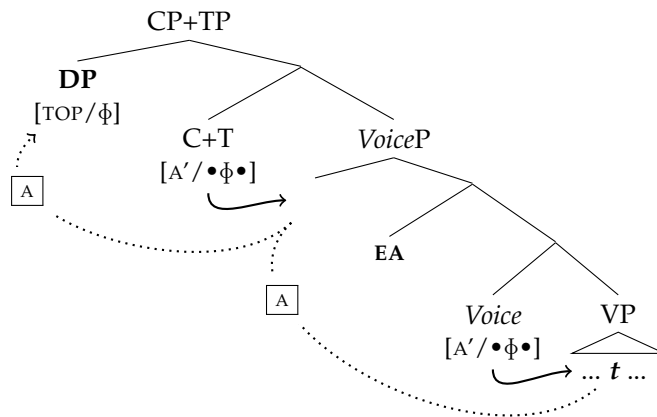
A pivot in OV/PV is established in a two-step process; it is first fronted to SpecVoiceP and then proceeds to Spec CP+TP. Let us go through these two steps in detail. Voice is merged with a $[A'/\phi\bullet]$ probe (see section 7.5 for an explanation why OV/PV Voice comes with $[A'/A]$ whilst AV does not) and the inability to license either one of its arguments. $[A'/\phi\bullet]$ attracts an A'/A goal from within in its c-commanding domain: in a transitive, that is the internal argument; the external argument in SpecVoiceP is out of reach (search is defined by c-command). Voice only finds an argument that fits both its A'- and A-requirements; the DP needs to be both a topic and a ϕ -goal. When Voice finds such a goal, it A-moves it to SpecVoiceP. By that, both the internal and the external argument occupy the phase-edge specifiers SpecVoiceP. I pursue the view that specifiers of the same head are equidistant, instead of hierarchically ordered (Ura, 1995; McGinnis, 1998).

(45) Step 1: object is A-moved to SpecVoiceP



In the second step, the object in SpecVoiceP is attracted by $[A'/\bullet\phi\bullet]$ on C+T and moved to SpecCP+TP. There, it is licensed as subject whilst at the same time its information-structural effects are interpreted.

(46) Step 2: object is A-moved to SpecCP+TP



In OV/PV, SpecCP+TP is the only locus of nominal licensing. If the object is licensed by C+T and Voice cannot license the external argument, how does the derivation not crash? Along the lines of Levin, 2015; Erlewine, Levin, and van Urk, 2019, I suggest that EA is licensed via a post-syntactic last-resort mechanism: strict verbal adjacency (discussed right below). Thus, given the semi-passive nature of OV/PV and its requirement for verbal adjacency of the agent, Balinese and Malagasy OV/PV constructions closest resemble an English example like (47).

(47) **The cat** is dog-chased.

Licensing of the agent As noted above, I assume that an OV/PV Voice head is merged as thematically transitive but without the option to license either of its arguments. Similar analyses for non-canonical passive are proposed, among others in, Bruening, 2001b; 2005; 2009; Levin, 2014b; Legate, 2021; Chen, 2023; or Oxford, 2023. I will now briefly discuss how the agent is licensed in these constructions, and how only the object can end up in SpecCP+TP.

Let us first look at the (only) successful derivation: after step one, that is after the object has been fronted to SpecVoiceP, both the internal as well as the external argument are, in theory, accessible to C+T. In step two, the $[A'/A]$ probe on C+T

attracts the internal argument and moves it to SpecCP+TP, thereby makes it the pivot and licenses it. The external argument remains (unlicensed) in SpecVoiceP. Levin, 2015; Erlewine, Levin, and van Urk, 2019 propose that the only way to avoid a crash is to license the agent via a last resort mechanism; verbal adjacency. As already discussed before, this mechanism is evident from the strict adjacency requirement between non-pivot agents and the verb, repeated below.

(48) *Balinese adjacency of non-pivot agents* (Wechsler and Arka, 1998: 405)

- a. *siap-e* [*uber* *cicing*] *ke jalan-e*
 chicken-DEF [*OV.chase* *dog*] into street-DEF
 'The chicken was chased into the street by a dog.'
 b. **siap-e* [*uber* *ke jalan-e cicing*]

(49) *Malagasy adjacency of non-pivot agents* (Pearson, 2005: 392)

- a. [*Nohanin'* *ny gidro*] *haingana ny voankazo omaly*
 [*PST.PV.eat* *DET lemur*] quickly DET fruit yesterday
 'The fruit was eaten quickly by the lemur yesterday.'
 b. * [*Nohanin(a)* *haingana ny gidro*] *ny voankazo omaly*
 c. * [*Nohanin(a)* *omaly ny gidro*] *haingana ny voankazo*

In Malagasy, the non-pivot agent also receives genitive case (additional to its strict adjacency). Independent of Austronesian, insertion of genitive on the external argument is often assumed to be a form of last-resort case when no structural licensing is available (e.g. Dixon, 1994; König, 2006; Halpert, 2012; Imanishi, 2014; Levin, 2015; van Urk, 2015). I assume that in Malagasy, last-resort licensing is a combination of genitive insertion (potentially in the form of a silent PP, see also van Urk, 2015) and strict verbal adjacency. Note that the diachronic origin of the genitive is argued to stem from a nominalized form of the verb; the Austronesian verbal domain is frequently proposed to have grammaticalized from a nominal system in which the agent obtains a genitive role, similar to the English *the Roman's destruction of the city*. Thus genitive marking on the agent most likely roots in this nominal predecessor of the voice domain (Kaufman, 2009 for an overview; note that he argues that Austronesian verbs still have nominal character). Note that no adjacency or genitive requirement exists for non-pivot themes in AV. In Balinese (50), the non pivot theme *chicken* may be separated from the verb by the intervening phrase *into the street*. Below I will propose that this is the case because AV Voice is merged as a true transitive, properly licensing its internal argument.

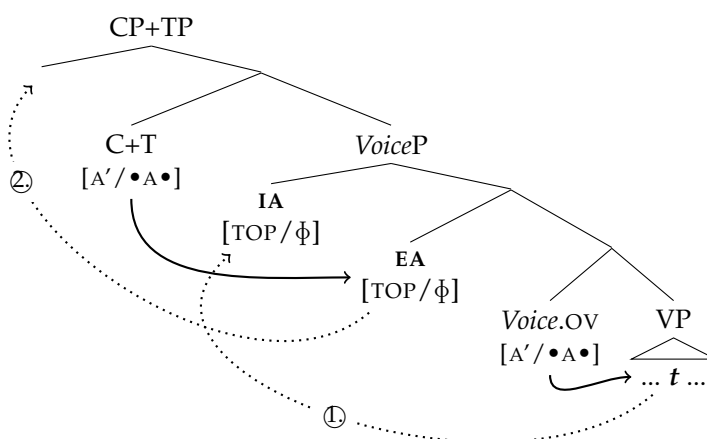
(50) *Cicing ng-uber ke jalan-e siap-e*
dog AV-chase into street-DEF chicken-DEF
 'The dog chased the chicken into the street.'
Balinese (Erlewine, Levin, and van Urk, 2019: 76, adapted from Artawa, 1994)

The same is true for Malagasy, shown in (51), where the non-pivot theme (*clothes*) can be separated from the verb (*wash*) by an adverb (*completely*) and is not genitive marked.

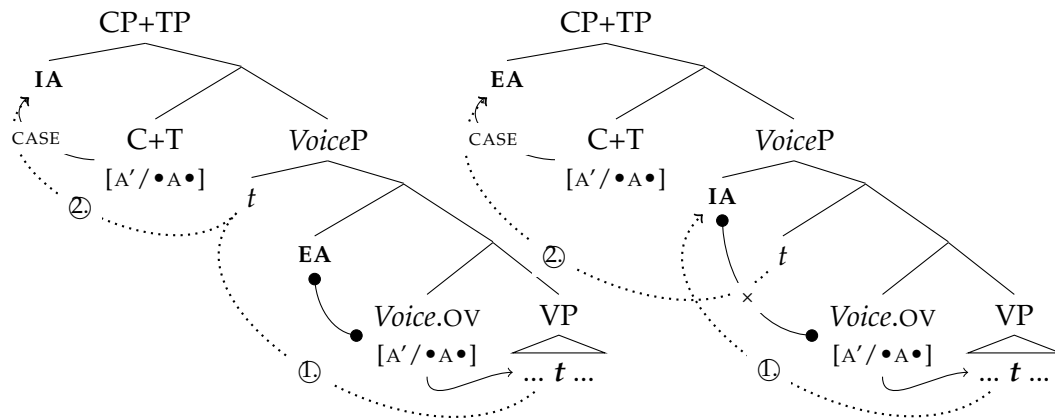
(51) *Manasa tanteraka ny lamba Rakoto*
 AV.wash completely DET clothes Rakoto
 'Rakoto washes the clothes completely.' *Malagasy* (Rackowski, 1998: 17)

(52) **Tiang tumbas bawi-ne punika*
 1SG OV.buy pig-DEF that
 Int.: 'The pig, I bought.' *Balinese* (own elicitation)

(53) *Hypothetical agent-pivot in OV/PV*



(54) a. *Non-pivot agent licensed via adjacency* b. **Extracted theme licensed via adjacency*



Note that Dinka, opposed to Balinese and Malagasy, allows such a derivation; in (55), Voice has fronted the object (*Ayen*) to SpecVoiceP, whilst at the same time the external argument (*you*) is attracted by [A'/A] on C and becomes the pivot of the clause. Why this structure is grammatical in Dinka but not in Balinese and Malagasy is discussed in chapter 8; it draws on the fact that Dinka OV Voice is a full transitive head that is able to license its internal argument (van Urk, 2015).

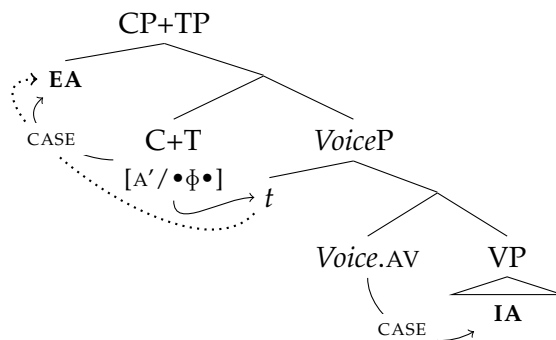
- (55) *Yin cé* [_{VoiceP} *Àyén gàam cáa*]
 you PRF.AV [_{VoiceP} **Ayen** give.NF milk]
 'You have given Ayen milk.'
Dinka (van Urk, 2015: 148)

Similar constructions in other languages Potentially similar constructions to Balinese/Malagasy OV/PV can be found in Bantu and Algonquian. Van der Wal, 2022 proposes that Bantu shows a form of object inversion, in which an internal argument is A-moved above the agent, which has the result that the agent needs to be licensed via strict verbal adjacency. Object inversion is tied to information-structure; as soon as the object is more topical than the subject, inversion is triggered. Similarly, Oxford, 2019; 2023 proposes for the Algonquian inverse constructions that the object is A-moved across the agent, without resulting in agent-demotion or passive formation. According to P. Grishin, p.c., the A-moved object in the inverse can be controlled, thus resembling the Balinese and Malagasy pivot.

7.4.3 Agent Voice

In Agent Voice (AV), things are different. I suggest that AV constitutes a fully transitive/active structure: AV Voice is able to license its internal argument and is merged as a regular active head (without [A'/A]). However, even in AV, C+T still carries an [A'/A] probe, promoting an element to pivot, which then becomes both a subject and a topic. In AV, this element may only be the external argument. Since Voice does not exhibit a composite, A-movement-inducing probe, it does not front the object to SpecVoiceP. VoiceP is a phase, hence C+T can only access what is at its edge; in AV, this is only the external argument. If the agent carries both fitting [A'] and [A] features, C+T agrees with it and moves it to SpecCP+TP; thus, promotion to pivot in AV happens only in one step (movement from SpecVoiceP to SpecCP+TP). The object remains within VP.

(56) *Derivation of AV (Voice head lacks [A'/A])*



The only way for an object to leave AV VoiceP would be via regular A'-movement (pure A'-movement is always an extraction option). However, this would mean that it underwent an A'-movement step to SpecVoiceP; BIM then prohibits that it undergoes subsequent A-movement to SpecCP+TP, becoming the pivot.

To summarize, I proposed that both AV and OV/PV configurations exhibit [A'/A] on C+T but differ in how Voice is merged. The morphological distinction between AV and OV/PV stems from the insertion of different Voice heads; an active one in AV versus a semi-passive one in OV/PV (I discuss Malagasy CV later in this section). OV/PV Voice cannot license any of its arguments and carries an [A'/A] probe, whilst AV Voice can license the internal argument but lacks an [A'/A] probe (thus cannot A-move its object out of VoiceP). The two configurations are summarized in (57).

- (57)
- | | | | |
|----|---------------|---|--|
| a. | AV: | Voice licenses the IA and lacks an [A'/A] probe | $\Rightarrow$ AV Voice: + ACC , [A'/A] |
| b. | OV/PV: | Voice does not license the IA and carries an [A'/A] probe | $\Rightarrow$ OV/PV Voice: - ACC , [A'/A] |

7.4.4 Arguments for [A'/A] on C

So far, I suggested that C+T carries an $[A'/\phi]$ probe in all voice values. This section aims to justify the presence of both $[A']$ and $[A]$ features on C+T and thereby promotion to pivot as a composite A'/A configuration.

One might wonder why we need and $[A' / A]$ probe on C+T, instead of a pure $[A']$ probe. If C carried only an $[A']$ probe, we would expect the pivot to behave like a pure A'-element, similar to standard topicalization. However, pivots in Balinese and Malagasy exhibit various subject-properties and properties that indicate that they have been A-moved.

Pivot control

As we already saw above (section 7.3), Balinese and Malagasy pivots are controlled in obligatory control configurations, the Balinese example is repeated in (58).

- (58) *Balinese pivot control*
(own elicitation; see Arka, 2003; Udayana, 2013 for similar examples)
- a. *Ia majanji* [**PRO** *periksa* *dokter*]
3SG AV.promised [**PRO**_{piv} *OV.examine* *doctor*_{agent}]
'She promised to be examined by a doctor.'

- b. **Ia majanji* [*dokter* *periksa* PRO]
 3SG AV.promised [*doctor*_{piv} *ov.examine* PRO_{agent}]
 Int.: 'She promised to examine a doctor.'

Control is a long-standing (functional) criterion to determine subjecthood (Keenan, 1976; Dixon, 1994) and is usually correlated with the A-status of an argument and/or its structural position (Landau, 2004). Hence, if pivots can be controlled, they must obtain some subject/A-properties, thereby an [A] probe must be involved in their attraction. If a pivot was a pure topic, we would not expect it to feed control.

No weak crossover

Further, pivots obviate WCO effects, a hallmark property of A-movement. This suggests that an A-movement inducing probe is involved in promotion to pivot. Take as a showcase example Malagasy (59): if a quantifier theme (*every woman*) is promoted to pivot, it crosses the agent (containing a variable; *her spouse*). From its landing site, the theme quantifier can bind the agent variable, rendering a bound variable reading; hence, it does not induce weak crossover. The bound variable reading is not available in the AV counterpart of the sentences; the data is discussed in more detail in section 7.6.

- (59) *Norahan'ny vadiny_{i/j} ny vehivavy rehetra_i*
 PST.PV.kiss'DET spouse.her DET woman all
 'Every woman_i is kissed by her_i spouse.' *Malagasy weak crossover* (Travis, 1998: 442)

If C carried a pure [A'] probe, we would expect promotion to pivot to be a pure A'-chain and thereby induce WCO. Since this is not the case, I assume that an [A] probe is involved in promotion to pivot.

Interaction with case

Pivots receive unmarked case. This is visible from Malagasy which expresses overt morphological case-marking (on pronouns), summarized in table 7.7.

	NOM	ACC	GEN
1SG	<i>aho</i>	<i>ahy</i>	<i>-ko/-o</i>
2SG	<i>ianao</i>	<i>anao</i>	<i>-nao/-ao</i>
3SG	<i>izy</i>	<i>azy</i>	<i>-ny</i>
1PL INCL	<i>isika</i>	<i>antsika</i>	<i>-ntsika/-tsika</i>
1PL EXCL	<i>izahay</i>	<i>anay</i>	<i>-nay/-ay</i>
2PL	<i>ianareo</i>	<i>anareo</i>	<i>-nareo/-areo</i>
3PL	<i>izy (ireo)</i>	<i>azy (ireo)</i>	<i>-ny/izy ireo</i>

TABLE 7.7: Malagasy case-marking on pronouns (Paul, 2000: 16)

Example (60) shows that the pivot is marked with nominative whereas a non-pivot agent is expressed in its genitive form.

- (60) a. *Hita-ko izy*
 PST.PV.see-1SG.GEN 3SG.NOM
 'She is seen by me.' (Paul, 2000: 22, glossing adapted)

- b. *Manolotra sary anao aho*
 AV.offer picture 2SG.ACC 1SG.NOM
 'I offer you a picture.'
 (Paul, 2000: 29, glossing adapted)

I take A-movement to feed morphological case assignment, thus it would be unexpected that the pivot receives unmarked case if only an [A'] probe was involved in its movement.

Given all the A/subject properties of pivots, the next question is why are pivots not pure subjects, moving to SpecTP instead of SpecCP? I assume that exactly this is the case in some Austronesian languages, particularly in Acehnese and Indonesian. There, pivots appear to be pure A-subjects, attracted by a sole [A] probe, most likely on T (see Legate, 2012; 2014; Patrianto and Chen, 2023a; Lohninger and Katochoritis, to appear); the table summarizing the data is repeated in 7.8.¹⁶

	LANGUAGE	Control	Definite-ness	Condition C reconstruction	WCO	Non-pivot agent
A'-topic	Tagalog	agent	✓	✓	×	free
A'-topic	Cebuano	agent	✓	✓		free
A'-topic	Madurese	agent	✓	✓		free (?)
A'/A	Balinese	pivot	✓	✓	×	adjacent
A'/A	Malagasy	pivot	✓	×	×	adjacent
A-subject	Acehnese	pivot	×	×	×	adjacent
A-subject	Indonesian	pivot	×	×	×	adjacent

TABLE 7.8: Typology of Austronesian pivots; adapted from Lohninger and Katochoritis, to appear

Information-structural effects

In Acehnese and Indonesian, promotion to pivot shows all hallmarks of bare A-movement; additionally, the pivot does not need to receive a definite or specific interpretation, see (61) where an indefinite DP can be promoted to pivot.

- (61) *Indonesian non-definite pivot* (Patrianto and Chen, 2023a: 11)
- a. *Se-seorang/seorang pria memanggil Rani*
 one-CLF/CLF man AV.call Rani
 'Someone/a man called Rani.'
- b. *Se-buah rumah sudah aku jual kemarin*
 one-CLF house PERF 1SG OV.sell yesterday
 'The house was sold by me yesterday.'

Contrary to Acehnese and Indonesian, Balinese and Malagasy exhibit information-structural restrictions, that is they require their pivots to receive a definite/specific interpretation. Malagasy and Balinese prohibit indefinite elements to be promoted to pivot, shown in (63) for Malagasy and (62) for Balinese (if an indefinite is promoted to pivot it needs to be accompanied by an existential marker, ensuring a specific

¹⁶Unfortunately, the scope of this thesis is too narrow to present an in-depth presentation of the data apart from Balinese and Malagasy; I refer the interested reader to Lohninger and Katochoritis, to appear.

interpretation).¹⁷ I take this requirement to be an indication of topichood, thus an [A'] feature involved in promotion to pivot.¹⁸

(62) *Balinese definite/specific pivots* (Patrianto and Chen, 2023a: 12)

- a. **(Ada) anak ng-aukin Rani*
**(EXST) person AV-call Rani*
 'Someone called Rani.' (= There was someone who called Rani)
- b. *Murid*(-e) ba orin wake tuni semengan*
student(-DEF) ASP OV.inform 2SG PAST morning*
 'The/*a student was informed by you this morning.'

(63) *Malagasy definite/specific pivots*

- a. *Nohanin'ny gidro (*ilay) voankazo*
 PST.PV.eat'DET lemur (**that*) fruit
 'That/*some fruit was eaten by the lemur.' (Pearson, 2001: 135)
- b. **Mihira ankizy*
 AV.sing child
 Int.: 'Some children are singing.' or 'A child is singing.' (Paul, 2000: 9)

(Some) reconstruction for principle C

Next, there is a non-uniform pattern in reconstruction: Balinese shows reconstruction for principle C, whilst Malagasy does not. Reconstruction effects are not a strong argument for the A'- or A-status of pivots, as we know that A-movement does not obligatorily reconstruct, but might do so (Richards, 2014; Safir, 2019). Thus the availability for reconstruction of the pivot does not directly rule out that it might have a pure A-status. However, I take the lack of reconstruction in Balinese to be a residual of the pivot's former topichood, based on the fact that neither Indonesian nor Acehnese (in which the pivot seems to be a "pure" subject) ever show reconstruction effects. Example (64) shows Balinese reconstruction for principle C: an R-expression pivot reconstructs into its base-position where it cannot be co-indexed with preceding pronoun.

- (64) **Bapan i Wayan_i-e alih ia_i t*
father Wayan-POSS OV.search 3SG t
 Int.: 'Wayan_i's father is searched for by him_i.' *Balinese* (own elicitation)

Malagasy, on the other hand, lacks reconstruction for principle C, and promotion to pivot can salvage an underlying principle C violation, shown in (65).

- (65) *Notambazany_i ariary folo ny zana-dRakoto_i*
 PST.PV.hire.GEN.3 ariary ten DET child.GEN.Rakoto
 'Rakoto_i's child was hired by him_i for 10 ariary.' *Malagasy* (Paul, 2002: 110/112)

¹⁷According to Patrianto and Chen, 2023a, the Balinese definiteness restriction is primarily present on animate pivots. Our consultant preferred definite pivots in all contexts. I. Paul (p.c.) indicated that the Malagasy definiteness restriction might be more of a formal requirement than a semantic one; pivots need to be marked definite but under certain circumstances may receive an unspecific interpretation.

¹⁸Note that, at least Malagasy involves an additional topicalization structure, indicated by the morphological marker *dia*. Paul, 2000 states that *dia*-topics are conversational aboutness topics, whereas the semantics of pivots involve more a form of familiarity/ specificity. I assume that both pivots and *dia*-topics depict a form of topicalization.

If pivots were bare subjects attracted by [A] on T in all four languages low on table 7.8 (Acehnese, Indonesian, Balinese and Malagasy), the contrasts in definiteness and reconstruction are unexpected. They are not under the assumption that in Balinese and Malagasy, pivots still keep some topic-properties, that is involve an [A'] probe.

Long-distance promotion to pivot

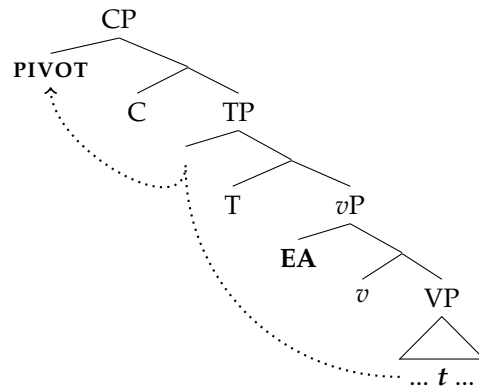
A last supporting property comes from long-distance promotion to pivot: both Balinese and Malagasy exhibit constructions where the pivot of an embedded clause becomes the matrix pivot (Pearson, 2005; Arka, 2019). Long-distance pivot movement is possible out of all complement clause sizes; even such that correspond to *propositional* clauses (in terms of Wurmbrand and Lohninger, 2023), are embedded under verbs like *think* or *know* and involve a complementizer, i.e. most likely are CP-sized, see (66) for Malagasy, and (67) for Balinese.

- (66) *Heverin-dRabe* [(fa) *didian' ny vehivavy amin'ny antsy t*] **ny mofo**
 PV.think-Rabe [(C) PV.cut DET woman with-DET knife *t*] DET bread
 'The bread, Rabe thinks (that) the woman is cutting (it) with the knife'
Malagasy (Pearson, 2005: 434; own elicitation)
- (67) *Bapa tawang tiang* [*t ngopi* *ditu*]
 father OV.know 1SG [*t* AV.drink.coffee there]
 'Father, I know that (he) drank coffee there.' *Balinese* (Arka, 2019: 265)

Long-distance promotion to pivot could correspond to two things; it might either be a sort of long-distance topicalization, resembling Dinka long-distance movement. Alternatively, it could be a form of long passive (Wurmbrand, 2001; Wurmbrand and Shimamura, 2017), where the theme of the embedded clause becomes the subject of the matrix clause. Long passives are usually a hallmark property of restructuring clauses, that is structurally reduced complement clauses (Wurmbrand, 2014a). The fact that long-distance topics can occur out of propositional clauses under matrix verbs like *think* would be unexpected under a restructuring analysis. Thus, I assume that long-distance promotion to pivot in (66), and (67) is a form of long-distance promotion to pivot, in which the pivot attracted by [A'/A] to the embedded clause-edge moves successive-cyclically to the pivot position of a higher clause. A more thorough discussion of these constructions can be found in section 7.6.3.

Against two movement steps through TP and CP

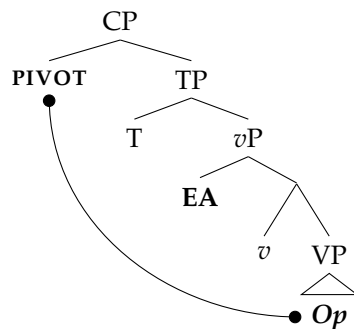
MacLaughlin, 1995 and Patrianto and Chen, 2023a bring forward an analysis where (Balinese and Malagasy) pivohood is established in a two-step process above VoiceP: from SpecVoiceP, the pivot first moves to SpecTP, where it becomes a subject and further, obligatorily, to SpecCP, where it obtains topic properties.

(68) *Two-step movement approaches*

Such an analysis does not differ in much detail from the one proposed in this thesis; the difference between them lies primarily in a positional versus a featural understanding of the *A'/A* distinction. In a two-step *TP > CP* account, the *A'/A* distinction is tied to structural positions. Thus, if a pivot has both *A'*- and *A*-properties, it needs to proceed through an *A*-position (SpecTP) and end in an *A'*-position (SpecCP). In a featural understanding of the *A'/A* distinction (as proposed in this thesis), it is not necessary to assume two distinct positions for mixed *A'/A* properties; it suffices if the element is attracted by a composite [*A'/A*] probe. Hence, in my account, the pivot only undergoes one movement step from SpecVoiceP to CP+TP. One disadvantage of a two-step movement/positional account is that the last movement chain, *A'*-movement to CP, has to be obligatory; however, one of the core properties of *A'*-movement across languages seems to be its optionality (van Urk, 2015). In my account, the obligatory pivot movement to SpecCP+TP roots in the need of the pivot to be licensed; since CP+TP are fused, only the specifier of this projection can fulfill this requirement. Hence, there is additional reasoning for promotion to pivot apart from mere topicalization. Further, a two-step analysis needs an additional restriction on C to only attract the pivot and not any other element; if CP solely requires to be filled with a topic, what restricts that this topic corresponds to the pivot and not to any other argument of the clause (e.g. the agent)? One would have to restrict the [*A'*] probe to only target the element in SpecTP (cf. Coon, Baier, and Levin, 2021; Branan and Erlewine, 2020). Put together, a two-step movement analysis requires two assumptions that my analysis circumvents: i) topicalization is obligatory in every declarative clause and ii) [top] on C needs to target the pivot in SpecTP and cannot attract any other argument. In an *A'/A* approach, these two problems do not occur, as both topicalization and promotion to subject are established within a single movement chain.

Against high base-generation

Pearson, 2005 (and to some extent Travis, 2011) suggest that (Malagasy) pivots are base-generated as (hanging) topics within CP, co-indexed with an operator in the corresponding thematic position.

(69) *High base-generation approaches*

What speaks against a high-base generation account, and in favor of a movement account, are pivot control and the effects of OV/PV on the non-pivot agent. As shown above, both Malagasy and Balinese exhibit pivot control; that is the pivot of the embedded clause is controlled, irrespective of its θ -role. If the pivot was base-generated within CP, this behavior is unexpected under all standard assumptions of control. Following Landau, 2000, 2004 I assume that control structurally targets the subject of a clause (usually the highest A-element); a pivot introduced in CP would count as an A'-element and not as a subject, therefore most likely not serve as the target of control. Further, if an internal argument is promoted to pivot, this has an effect on the external argument/ agent of the clause; it has to be strictly verb adjacent. As noted above, I take this adjacency to be a form of case licensing (Baker, 1988; 2008; Levin, 2014a; 2015; Erlewine, Levin, and van Urk, 2019); an alternation in case-licensing of the agent is highly unexpected if the pivot corresponds to a hanging topic and is difficult to explain under a high base-generation analysis (although see Pearson, 2005 for addressing both issues).

7.4.5 Arguments for [A'/A] on OV/PV Voice

So far, I proposed that all voices involve an [A'/A] probe on C+T. I also suggested that in OV/PV, Voice, apart from being a non-canonical passive head, is merged with an additional [A'/A] probe. The reason for the composite probe on OV/PV Voice correlates with the topic-to-subject grammaticalization process that I take pivots are the result of: topic-as-subject reanalysis usually goes hand-in-hand with passivization of the verb (if it is the object that has been topicalized; see Van Gelderen, 2022, and also section 7.5). Given this process, I take OV/PV to be a form of non-canonical passive, thematically transitive but without the ability to license its arguments. A property of non-canonical passives often seems to be their A'/A quality; Balinese and Malagasy resemble Mandarin and Khanty passives in that respect; both of which have been analyzed as involving an [A'/A] probe on Voice (both are discussed further in chapter 8.¹⁹ In Balinese/Malagasy OV/PV, the object is promoted to pivot and reanalyzed as subject, this renders a passive-like interpretation of the verb. Note that an agent (AV) pivot would not have this effect, as the object remains within VP and the interpretation thereby fully transitive. Thus, only OV/PV triggers a passive-like interpretation; hence Voice carries an [A'/A] probe only in OV/PV.

The idea of an [A] probe on Voice which A-moves the object out of VP not novel to my account; similar approaches can be found, among others, in Aldridge, 2008; Rackowski, 2002; Rackowski and Richards, 2005; Wurmbrand, 2013; Brodtkin, 2022.

¹⁹For Khanty, Colley and Privoznov, 2020 suggest that [A'/A] sits on T; see chapter 8 for a refinement of their analysis in which [A'/A] is located on Voice.

None of the listed approaches, however, proposes a composite [A'/A] probe on Voice; they either resume to a pure [EPP] feature, fronting the closest object above the external argument or to a mechanism like object shift, in which the object is moved out of VP and tucked in below the external argument (see particularly Rackowski and Richards, 2005 for Tagalog). Unfortunately, both of these assumptions come with predictions that are not borne out in Balinese and Malagasy. The [A'/A] probe on Balinese and Malagasy Voice can neither be a bare [A'] nor a bare [A] probe; The [A'] feature is necessary to ensure that the attracted DP is a topic, that is a definite/specific element. Further, it enables the composite probe to skip an intervening DP in ditransitives. The [A] feature of the composite probe allows the object to A-move to SpecVoiceP from where it can then further A-move to SpecCP+TP (without violating BIM) thereby ensuring the A-movement properties promotion to pivot involves (lack of WCO, lack of reconstruction, feeding into A-movement; see section 7.6).

A'/A minimality in ditransitives

A bare [EPP] feature on Voice predicts that the closest DP in the c-commanding domain of Voice would be attracted. This works in simple transitives, where only the internal argument is in the search domain of [EPP]. The prediction breaks down in ditransitives where both Balinese and Malagasy allow to symmetrically either promote an indirect or a direct object to pivot, shown in (70) for Malagasy and ?? for Balinese. The respective structure is presented in (72).

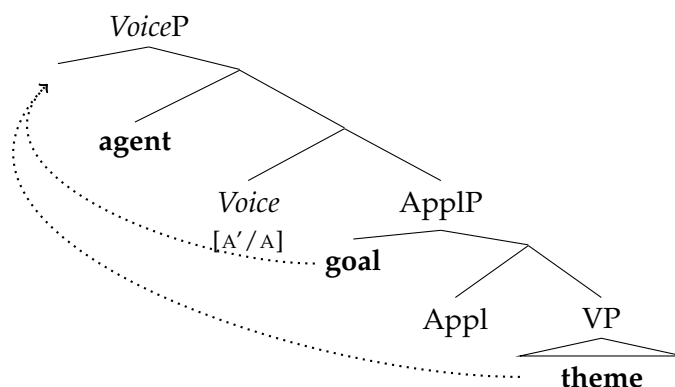
(70) *Malagasy ditransitives* (own elicitation, based on Paul, 2000)

- a. *Tolor-an=ko sary ianao*
PV.offer-APPL=1SG.GEN picture 2SG
'You are offered a picture by me.'
- b. *A-tolotr=o anao ny sary*
APPL-PV.offer=1SG.GEN 2SG.ACC DET picture
'The picture is offered to you by me.'

(71) *Balinese ditransitives* (Arka, 2019: 271)

- a. *Nyoman beli-ang tiang montor*
Nyoman OV.buy-APPL 1SG motorbike
'Nyoman is bought a motorbike by me.'
- b. *Montor beli-ang tiang Nyoman*
motorbike OV.buy-APPL 1SG Nyoman
'A motorbike is bought for Nyoman by me.'

(72) *Promotion to pivot out of ditransitives (either object can be promoted)*



Note that in both cases, the OV/PV verb is marked with an additional applicative marker. This marker allows to license one additional argument within the verbal domain; that is it makes a ditransitive out of a monotransitive. I assume that in both cases, the marker represents an applicative head which may either license the direct or indirect argument. Along the lines of Van der Wal, 2022, I suggest that Appl is flexible in terms of licensing, that is may either license its complement or its specifier. If Voice is merged as OV/PV, it attracts one of the objects to SpecVoiceP. The other argument stays in situ and is licensed by the applicative head. In Balinese, the applicative marker *-ang* stays the same, irrespective of what object is promoted to pivot and what is licensed by Appl. In Malagasy, the applicative marker differs (*a-* versus *-an*), depending on which argument is extracted; I suggest that Malagasy ApplP, just like Balinese, may license either its specifier or its theme. Only in Malagasy, this is reflected in different applicative morphology.²⁰

If Voice carried a bare [EPP]/[ϕ], this probe would only be able to attract the closest DP, that is the applicative in a ditransitive. In order to account for the option to symmetrically either promote the direct or indirect object to pivot, we would need to assume two distinct underlying base-orders: one in which the direct object is structurally higher and one in which the indirect object is higher. This would be in some ways similar to the English alternation *I offer you the picture* and *I offer the picture to you*. Rackowski, 2002 and Rackowski and Richards, 2005 suggest such a difference in base-order for Tagalog, arguing that only the highest of the two objects may be promoted to pivot.²¹ I argue that this is not the case in Balinese and Malagasy but that promotion of a theme may cross a c-commanding goal. Let us have a look at ditransitives in Balinese and Malagasy: both languages, in principle, allow an alternation in the base-order of ditransitive objects: they may express the indirect object either within the voice domain (in ApplP) or as an adjoined PP. For Malagasy, this is shown in example (73), where the goal *the children* can either be a DP or embedded into a PP (indicated by the preposition *hoan*).

(73) *Malagasy ditransitive alternation* (Paul, 2000: 77,78)

- a. *Naharoso (ny) vary ny ankizy ny mpiasa*
 PST.AV.serve (DET) rice DET child DET worker
 'The workers served the children rice.'
- b. *Naharoso (ny) vary hoan'ny ankizy ny mpiasa*
 PST.AV.serve (DET) rice to.GEN.DET child DET worker
 'The workers served the rice to the children.'

Note that, when promoting a pivot out of a PP, Malagasy uses circumstantial voice, shown in (74).

(74) *Malagasy PP pivots trigger CV* (Paul, 2000: 93,94)

- a. *Nandroso vary hoan'ny vahiny Rakoto*
 PST.AV.serve rice for.GEN.DET guest Rakoto
 'Rakoto served rice to the guests.'
- b. *Nandrosoan-dRakoto vary ny vahiny*
 PST.CV.serve-GEN.Rakoto rice det guest
 'The guests were served rice by Rakoto.'

²⁰Note that the different applicative markers could also depict either high or low applicative forms.

²¹Chen, 2017 criticizes the tests and data used in Rackowski, 2002, arguing that there is only a single base-line ordering in Tagalog ditransitives.

The relevant example (75) shows symmetric extraction of both objects; both versions of the ditransitive are PV forms. Further, none of the objects remaining inside the voice domain is expressed as PP. If example (75b) (in which the theme is promoted to pivot) would correspond to a base-line where the indirect object is demoted to a PP, we would expect the indirect object to be introduced by a preposition. This is not the case; the indirect object is introduced as a regular DP argument.

(75) *Malagasy ditransitives* (own elicitation, based on Paul, 2000)

- a. *Tolor-an=ko sary ianao*
 PV.offer-APPL=1SG.GEN picture 2SG
 'You are offered a picture by me.'
- b. *A-tolotr=o anao ny sary*
 APPL-PV.offer=1SG.GEN 2SG.ACC DET picture
 'The picture is offered to you by me.'

I take this as an argument for [A'/A] on Voice to freely/symmetrically promote either the goal or theme to pivot.²²

Balinese ditransitives, too, allow indirect objects to be expressed as PPs, alternating with ApplP arguments. If the indirect object is expressed without a preposition, it is cross-referenced by an applicative marker on the verb. Along the lines of Arka, 2019, I take this to be an indication that it becomes a structural core-argument, situated within ApplP. This is visible in monotransitives (76) as well as in ditransitives (77a), (77b).

(76) *Balinese Appl/PP alternation* (Arka, 2019: 268)

- a. *Nyoman negak di kursi-ne*
 Nyoman AV.sit on chair-DEF
 'Nyoman sat on the chair.'
- b. *Nyoman negak-in kursi-ne*
 Nyoman AV.sit-APPL chair-DEF
 'Nyoman sat on the chair.'

Balinese exhibits two kinds of applicative markers, *-in* and *-ang*; *-in* cross-references locatives, see (77a), whereas *-ang* is used for benefactives, see (77b).²³

(77) *Balinese applicative markers*

- a. *Cai nyilih-in bapa=ne pipis*
 you AV.borrow-APPL father=3SG.POSS money
 'You borrowed money from his father.' (Shibatani and Artawa, 2015: 885)
- b. *Tiang meli-ang Made buku-ne ene*
 I AV.buy-APPL Made book-DEF this

²²Note that Paul, 2000 argues that either the goal or the theme can be base-generated higher, rendering two alternating base-lines, similar to Rackowski, 2002. Paul's argument, however, is a conceptual one and not directly supported by data; binding tests seem to not indicate different base-structures (Paul, 2000: 85,86). In her analysis, pivots are pure A-subjects and PV a form of passive; hence, she needs alternating base base-orders to explain how an [EPP]/[φ] probe on *v* can ever attract the lower theme. Opposed to that, I argue that there is no A-minimality restriction; [A'/A] on Voice simply attracts either the goal or the theme.

²³In other contexts, the *-ang* marker is glossed/interpreted/used as a causative marker (see Shibatani and Artawa, 2015 for its different uses). Both Shibatani and Artawa, 2015 and Arka, 2019 analyse it as a valency-increasing applicative marker when attached to monotransitive verbs like *buy* - I adopt this analysis.

'I bought Made this book.' (Shibatani and Artawa, 2015: 902)

Coming back to the initial example of ditransitive pivots, repeated in ??, we see that either object may be promoted to pivot (the example comes with the benefactive applicative *-ang*). Note that, irrespective of which object is promoted, the other one does not appear as PP. I take this as an indication that a lower theme can cross an indirect object in ApplP when being promoted to pivot, thus the movement-triggering probe on Voice is not A-minimal.

(78) *Balinese ditransitives* (Arka, 2019: 271)

- a. *Nyoman beli-ang tiang montor*
Nyoman OV.buy-APPL 1SG motorbike
 'Nyoman is bought a motorbike by me.'
- b. *Montor beli-ang tiang Nyoman*
motorbike OV.buy-APPL 1SG Nyoman
 'A motorbike is bought for Nyoman by me.'

To conclude, promotion to pivot out of ditransitives is symmetrical in both Balinese and Malagasy, that is both an indirect as well as a direct object may be targeted. A bare [EPP]/[ϕ] probe on Voice would only be able to attract the closest DP; the indirect object. This is not what we observe: a (lower) theme may be promoted to pivot and on its way to SpecVoiceP cross the indirect object in ApplP. Hence, an [A'/A] probe on Voice makes the better predictions than a bare [A] probe in terms of A'/A minimality.

Information-structural effects

Further, a bare [EPP]/[ϕ] on Voice does not guarantee that the attracted DP is topical. Remember that Balinese and Malagasy promotion to pivot requires the pivot to receive a definite or specific interpretation. I take this to be the effect of a [top] probe being involved in the search process. If Voice only bears an [EPP]/[ϕ], it does not select for a specific information-structural interpretation; it may attract any element. The requirement for definiteness/specificity of the pivot would have to be derived in another way. This could, for example, be done via existential closure; when the object is fronted to SpecVoiceP, it leaves existential closure of VP and thereby receives a definite interpretation (suggested in Rackowski and Richards, 2005). Note, however, that it is then surprising that AV, too, requires a definite/specific pivot. An AV pivot originates outside of VP, and if definiteness comes down solely to escaping existential closure of VP, the information-structural effects of agent pivots need to be explained in another way. I assume that the definiteness/specificity restrictions on all pivots roots in an A'-probe being involved in the probing process—both in the first step (Voice) as well as the second one (C+T). Another thing that is puzzling under a bare [EPP]/[ϕ] analysis is why pivots in Acehnese and Indonesian do not obey the definiteness restriction (cf. Legate, 2014; Patrianto and Chen, 2023b); in these languages, object-pivots, too, leave VP when moving to their pivot-position (presumably in SpecTP), thus they leave existential closure. However, in Acehnese and Indonesian, this process does not trigger a definite/ specific interpretation of the pivot. This is surprising if we assume that the definiteness effect on pivots roots in leaving existential closure alone. Postulating an [A'/A] probe on Voice can account for the distinction straightforwardly, as it only selects a goal with [A'] features.

Against object shift

Another kind of approach to pivot promotion is the idea that the initial step in the voice domain resembles Skandinavian object shift (Richards, 2000; Rackowski and Richards, 2005 for Tagalog; Brodtkin, 2022 for Mandarin). In object shift, the theme moves out of its base-position to a projection below the external argument, shown in (79) for Icelandic.

- (79) *Pétur lasv bækurnari eflaust aldrei t*
 Peter read **books-the** doubtlessly never *t*
 'Peter, undoubtedly, never read these books.' Icelandic (Vikner, 2005: 393)

Richards, 2000; Rackowski and Richards, 2005; Brodtkin, 2022 propose that the VoiceP internal step of promotion to pivot nothing less than object shift; thereby the object becomes accessible to the higher C or T. Whilst this might be a feasible account for Tagalog, there are some fundamental differences between Skandinavian shifted objects and Balinese/Malagasy pivots. Primarily, shifted objects do not receive any subject properties; they can, for example, not be controlled, shown in (80), where both with and without object shift, the embedded subject remains the controllee.

- (80) *Icelandic object shift and control* (Jónsson, 1996: 196)
- a. *María lofaði [PRO að lesa ekki bókina]*
 Maria promised [PRO to read not **book-the**]
 'Maria promised not to read the book.' *no object shift*
- b. *María lofaði [PRO að lesa bókina ekki]*
 Maria promised [PRO to read **book-the** not]
 'Maria promised not to read the book.'
Shifted object does not change controllee

Further, object shift is asymmetrical in ditransitives; that means it can only target the closest DP (the goal), see (81a), whereas shifting the theme (*books*) across the goal is ungrammatical, (81b). We saw above that this is not the case in Balinese and Malagasy.

- (81) *Icelandic object shift restricted to the closest DP*
 (Vikner, 2005: 400, taken from Collins and Thráinsson, 1993)
- a. *Ég lána Maríu ekki t bækurnar*
 I lend **Maria.DAT** not *t* **books-the.ACC**
 'I do not lend Maria the books.'
- b. **Ég lána bækurnar ekki Maríu t*
 I lend **books-the.ACC** not **Maria.DAT** *t*
 Int.: 'I do not lend Maria the books.'

Thus, object shift differs from what we observe in Balinese and Malagasy pivots; pivots there may be controlled and cross a c-commanding goal when being promoted. We might ask now, why do we need an [A] probe on Voice at all? Would not a bare [A'] probe suffice to front an object to SpecVoiceP?

Against a pure [A'] probe on Voice

A bare [A'] probe on Voice would trigger A'-movement of an object to SpecVoiceP. Whilst such an analysis would be able to account for the symmetrical extraction

of either object in ditransitives as well as the information-structural effects of pivots, it leaves unexplained where the subject/A-properties of pivots stem from. If Voice fronted an object via A'-movement, the BIM would rule out that the subsequent movement step to SpecCP+TP is A-movement. Thus, promotion to pivot would have to be pure A'-movement. We would then expect that pivots induce weak crossover effects, obligatorily reconstruct, and cannot serve as controllees. None of these predictions is borne out. Hence, an [A] probe must be involved in the first movement step to SpecVoiceP, ensuring that movement out of VoiceP can be an A-chain.

I conclude that both an analysis based on a bare [EPP]/[ϕ] as well as a bare [A'] on Voice make the wrong predictions for what we observe in Balinese and Malagasy OV/PV promotion to pivot. An [A'/A] probe on Voice is able to account for the observed properties. [A'/A] on Voice agrees with an object in its c-commanded domain and triggers A-movement thereof; this ensures that the attracted theme can obtain subjecthood and A-movement properties and undergo subsequent A-movement to CP+TP whilst at the same time guarantees for the information-structural effects of the pivot and its ability to cross an intervening DP in ditransitives. Put together, I argued that we need both, an [A'/A] probe on C+T (in all voices) as well as an [A'/A] probe on Voice in OV/PV. Both probes trigger A-movement. This combination accounts for all properties we observe in Balinese and Malagasy promotion to pivot and will derive their A'/A signature in section 7.6. Before we proceed there, I will shortly talk about Malagasy CV, extraction restrictions and how structural topic-to-subject grammaticalization might be the reason for the composite probes in Balinese and Malagasy.

7.4.6 Malagasy Circumstantial Voice

One thing I have not discussed yet is Malagasy Circumstantial Voice (CV). Exhibiting a Philippine-type voice system, Malagasy expresses not only AV and PV, but an additional circumstantial voice (CV). CV is used when promoting obliques to pivot, like *the knife* in (82).

- (82) *Nanapahan'i Sahondra ity hazo ity ny antsy*
 PST.CV.cut.GEN.Sahondra this tree this DET knife
 '(With) the knife, Sahondra cut this tree.' *Malagasy CV* (Paul, 2000: 9)

Usually, an oblique occurs embedded inside a PP, shown in the AV counterpart of the example, (83), where *knife* is embedded under the preposition *with*. When a PP is promoted to pivot under CV, as in (82), it loses this preposition and is reduced to a DP. I take the loss of preposition as indication that the pivot needs to serve as a ϕ -goal for [A'/A], which is only possible when not embedded into a PP shell (see also Paul, 2000; van Urk, 2015; Scott, 2021b).

- (83) *Nanapaka ity hazo ity tamin'ny antsy i Sahondra*
 PST.AV.cut this tree this PST.P.GEN.DET knife Sahondra
 'Sahondra cut this tree with the knife.' *Malagasy AV* (Paul, 2000: 9)

As elaborated in more depth in the later section 7.5, I assume that voice marking originally stems from topic agreement, similar to what Chen, 2017 proposes for Western Austronesian languages. I suggest that the bundling of a [top] feature with

different forms of agreement (e.g. ϕ -agreement, object agreement) has led to a topic-to-subject reanalysis of pivots in Balinese and Malagasy. Malagasy CV might be a leftover of this previous stage, where pivots were more topic-like, hence were not restricted to core arguments and could be PPs and adjuncts. Along the lines of Guilfoyle, Hung, and Travis, 1992; Paul, 2000, I assume that in CV constructions, the verbal domain is fully transitive, licensing its internal argument. Hence, CV Voice resembles AV Voice in the featural equipment and licensing abilities: it licenses the internal argument and lacks a composite $[A'/A]$ probe. Put together, Malagasy Voice may come in two versions:

- (84) a. AV/CV: Voice licenses the IA and lacks an $[A'/A]$ probe
 $\Rightarrow$ AV/CV: +ACC, $[A'/A]$
 b. PV: Voice does not license the IA and carries an $[A'/\bullet A\bullet]$ probe
 $\Rightarrow$ PV: -ACC, $[A'/A]$

In all three versions (AV, CV and PV), C+T carries an $[A'/A]$ probe. This renders the following combinations of $[A'/A]$ probes on C+T and Voice.

	C+T	Voice
AV/CV	$[A'/\phi]$	$[A'/\phi]$, +ACC
OV/PV	$[A'/\phi]$	$[A'/\phi]$, -ACC

TABLE 7.9: $[A'/A]$ probes in Balinese and Malagasy

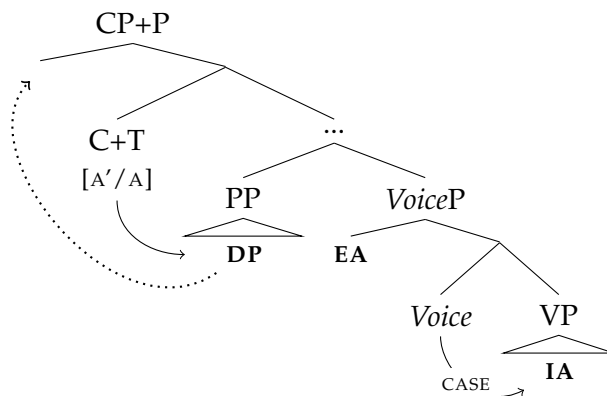
CV and AV are thus two versions of the same Voice head: both carry an $[A'/A]$ probe on C+T but not on Voice. $[A'/A]$ on C+T attracts either the agent, rendering the clause AV, or a PP/adjunct, rendering the clause CV.²⁴ In both cases, SpecCP+TP serves as the only position to license unmarked case; in AV, the agent is licensed up there. In CV, the formerly PP/adjunct undergoes ϕ -agreement and is licensed in SpecCP+TP (thereby, it also does not need its prepositional layer anymore). In CV, the agent needs to resume to verbal adjacency to be licensed, just as it does in PV. This is visible in (85): the agent *Rakoto* is GEN marked and phonologically bound to the verb, just as in the PV examples.²⁵

- (85) *Nandrosoan-dRakoto vary ny vahiny*
 PST.CV.serve-GEN.**Rakoto** rice DET guest
 'The guests were served rice by Rakoto.' *Malagasy CV* (Paul, 2000: 94)

In my analysis, CV, just like AV and PV, is a mixture of topicalization and promotion to subject; the pivot is attracted by an $[A'/A]$ probe on C+T and A-moves to SpecCP+TP. There, it agrees with $[A']$ and $[A]$, is licensed as subject and interpreted as pivot. The agent is licensed via verbal adjacency whereas a potential theme is licensed via ACC in its base-position; the structure is shown in (86).

²⁴Under this assumption, circumstantial voice morphology reflects a form of extraction agreement or topic morphology. Ways to formalize such agreement morphologically can be found, among others, in Georgi, 2014.

²⁵Note that this example looks like a ditransitive but it is not; the pivot originated as a PP, hence CV is used; see Paul, 2000: 93f.

(86) *Promotion to pivot under CV*

To summarize, both Balinese and Malagasy exhibit two versions of clauses; a fully transitive one, properly licensing its internal argument and a semi-passive one, lacking an object licensing option. In all cases, CP+TP carries an [A'/A] probe. Voice, however, is not always equipped with [A'/A]: it only carries a composite probe in PV/OV. Balinese only allows core arguments to be promoted to pivot (Arka, 2019) whereas Malagasy still permits promotion of adjuncts and elements introduced in PPs. I assume that this is left-over of the former topic-status of pivots. In the subsequent section 7.5, I suggest that pivots in Balinese and Malagasy are former topics which have been reanalyzed as subjects; Malagasy CV is a remnant for the former topic stage whereas Balinese already lost the ability to promote non-core arguments. Nevertheless, even CV pivots land in an A'/A position, hence have to lose their PP layer in order agree with C+T and exhibit A-movement properties.

7.4.7 Extraction restrictions

All voice-marking Austronesian languages exhibit a pivot-only extraction restriction; this means, only the pivot may be wh-extracted, relativized, undergo focalization (or topicalization if the language exhibits a second type of topicalization). Extracting an element other than the pivot is ungrammatical. This is shown for Malagasy in (87) and for Balinese in (88).

(87) *Malagasy pivot-only extraction* (Paul, 2002: 100)

- a. *Iza no namaky ilay boky?*
who FOC PST.AV.read def book
 'Who read the book?'
- b. *Inona no novakin'i Soa?*
what FOC PST.PV.read.GEN Soa
 'What did Soa read?'
- c. **Inona no namaky i Soa?*
what FOC PST.AV.read Soa
 Int.: 'What did Soa read?'

(88) *Balinese pivot-only extraction* (Erlewine, Levin, and van Urk, 2017: 389)

- a. *Apa beli Nyoman t?*
what OV.buy Nyoman *t*
 'What did Nyoman buy?'
- b. **Nyen montor anyar beli t?*
who car new OV.buy *t*

Int.: 'Who bought a new car?'

Contrary to extraction of nominals/arguments, extraction of adjectives is not restricted by voice-marking and may happen independently of promotion to pivot, shown in (89) for Malagasy, where *Soa* is the pivot whilst *when* is extracted.

- (89) *Oviana no namaky ilay boky i Soa?*
when FOC PST.AV.read DEF book **Soa**
 'When did Soa read the book?' *Malagasy adjunct extraction* (Paul, 2002: 100)

The pivot-only extraction restriction is a well-studied property of Austronesian languages, and this thesis does not provide the space to discuss it in detail or provide an insightful account. Hence, I resume to a simplified version of the approaches presented in Aldridge, 2008; Legate, 2014; Erlewine, 2018: extraction targets CP, which is usually reserved for promotion to pivot. Thereby, extraction competes with promotion to pivot, thus, only pivots may be extracted. Since CP+TP serves as licensing position for the pivot, there is no possibility to license the pivot if CP+TP would be filled with another element. Thus, all derivations in which an element other than the pivot is extracted fail due to the unlicensed pivot.²⁶ One interesting aspect of extraction restrictions (which might support this analysis) is the side-car extraction in Balinese. As already shown in chapter 4, wh-extraction under OV in Balinese allows for the non-wh/non-pivot agent (*Nyoman*) to be extracted, as long as the wh-object is extracted too, shown in (90).²⁷

- (90) *Apa ci aih t t ditu ibi?*
 what **you** OV.seek *t t* there yesterday?
 'What did you look for there yesterday?'
Balinese (Erlewine, Levin, and van Urk, 2017: 390)

As we already know, usually, the non-pivot agent occurs strictly right-adjacent to the verb. In the side-car extraction construction in (90), however, it precedes the verb, indicating that it has been extracted alongside the object. Following Erlewine, 2018, I assume that examples like (90) are the result of multiple probing of [A'/A] on C+T: it first attracts the wh-object to its specifier (where it also licenses it as pivot) and further the external argument to an additional SpecCP (of course only given that it (the external argument) agent carries both [A'] and [A] features too). Thereby, the [A'/A] probe on C probes multiply and attracts two fully fitting goals to its specifiers. I assume that the agent, as it now also resides in a SpecCP+TP specifier, can be licensed there too.

7.5 [A'/A] as a result of topic-as-subject reanalysis

As stated in chapter 4, I assume that there is usually a reason for the presence of [A'/A] probes in the syntactic structure. This means, an A-movement inducing probe in a phasal head is not necessarily a parametric property of a language but may result from independent processes, such as language change. As already pointed out, I suggest that the reason for [A'/A] probes in Balinese and Malagasy is

²⁶Note that most (if not all) Austronesian languages form extraction patterns via cleft structures (see Paul, 2000; Pearson, 2001 for Malagasy, Arka, 2003 for Balinese, and Hsieh, 2020 for an extensive overview in Tagalog). Depending on the exact analysis one chooses for clefting, this might be another pathway of how to explain the pivot-only extraction.

²⁷Erlewine, 2018 describes a similar behavior in the related Austronesian language Toba Batak.

a topic-to-subject grammaticalization process, happening across Austronesian languages (see also Shibatani, 1991; Patrianto and Chen, 2023a; Lohninger and Katochoritis, to appear). Topic-to-subject grammaticalization (also topic incorporation, topic-as-subject reanalysis, topic-to-subject lowering; all four are used interchangeably here) is a diachronic phenomenon observed in a variety of languages (see Van Gelderen, 2022 for an overview), whereby, A'-topics are reanalyzed as A-subjects, and shift from a pragmatic, information-structural to a core-argument/grammatical-functional interpretation (Givón, 1979). During this process, subject-related properties (s.a. reflexive binding, control, formation of imperatives, etc., see Keenan, 1976; Dixon, 1994) are passed from the original subject to the newly derived one (the former topic). Reanalysis of an object topic as subject often goes hand-in-hand with passivization (Givón, 2018; Van Gelderen, 2022). To exemplify, when the topic *cat* in a showcase construction like (91a), is reanalyzed as a subject, it renders a construction like (91b).

(91) *Topic-to-subject reanalysis of objects*

- a. **The cat_{top}**, the dog chases.
- b. $\Rightarrow$ **The cat_{subj}** is chased by the dog/ **The cat_{subj}** is (dog-)chased.

Givón, 2018 suggests that processing speed might have an influence on topic-as-subject reanalysis; interpreting *the cat* as a subject requires less syntactic structure than interpreting it as a topic. Shibatani, 1991 proposes that Austronesian Philippine-type languages are in an advanced stage of such a topic-as-subject reanalysis, whereby topics are obligatory present in every clause; probably because they already obtain some subject properties. Patrianto and Chen, 2023b; Lohninger and Katochoritis, to appear argue that Austronesian languages exhibit (at least) three stages of a topic-as-subject reanalysis process; one where pivots still resemble topics but already exhibit some scattered A-properties (Cebuano, Madurese and Tagalog), such where topics have been almost fully re-analyzed as subjects (Acehnese and Indonesian) and one right inbetween topic and subjecthood (Balinese and Malagasy) (see also section 7.3.3).

Traditionally, topichood is associated with syntactic A'-properties (such as information-structural effects, A'-movement properties, A'-minimality, etc.) whilst subjecthood is associated with syntactic A-properties (such as ϕ -agreement and case, A-movement properties, A-minimality and alike). For the languages where pivots seem to obtain an A'-status (e.g. Tagalog, Cebuano; expressing most properties correlated with a pure A'-probe and A'-movement), Chen, 2017 suggests that voice-marking is a spell-out of topicalization bundled with a form of agreement; either ϕ -agreement, object-agreement, temporal/locative-agreement or δ -agreement, summarized in (92).

(92) *Voice-marking = agreement bundling* (Chen, 2017)

- a. AV: topic-agreement + ϕ -agreement
- b. PV: topic-agreement + object-agreement
- c. CV: δ -agreement
- d. LV: topic-agreement and locative/temporal-agreement

Hence, already in languages on top of the table, pivots are not pure topics; they bundle with agreement and have an effect on verbal morphology. I propose that what starts out as conjoined topicalization and verbal agreement results in a reanalysis of topics as subjects in the languages in the second and third row of the table. Thereby,

topics gradually obtain more and more the grammatical status of a subject. Syntactically, this means that they lower in the clausal spine from within CP towards TP, thereby enter the ϕ /case-domain and, as a result, may be targeted by control, bind reflexives and exhibit A-movement related properties.

The intermediate stage of Balinese and Malagasy is particularly well visible in OV/PV configurations where the object topic is reanalyzed as subject, which renders a passive-like interpretation of the verb. Simultaneously, the original subject (the external argument) is not fully demoted yet. This results in a structure involving two subjects, just as proposed in Guilfoyle, Hung, and Travis, 1992. I suggest that this in-between stage of pivots is the reason not only for the composite $[A'/A]$ probe on C but also on OV/PV Voice: what happens syntactically in topic-to-subject reanalysis is a form of topic lowering down the structural spine (Lightfoot, 1979; 2003; Walkden, 2012). I propose that for Balinese and Malagasy syntax, this means that a topic projection of the left periphery (TopP) is lowered and fused with the canonical subject position, TP. The Top head carries $[A']$ features, whereas T carries $[A]$ features; their fusion renders a head Top+T bearing a composite $[A'/A]$ probe. If an object from inside VoiceP is raised to this position, this triggers a passive-like interpretation of VoiceP. Given the intermediate stage of the topic-to-subject grammaticalization process, Voice is not a full passive head yet: it cannot assign accusative anymore, but still thematically introduces both an agent and a theme. The $[A'/A]$ probe on Voice stems from this combination of topicalization and passivization; the $[A']$ probe was originally necessary to successive-cyclically topicalize the object. The $[A]$ probe comes with the passive nature of the head and ensures that the object (which cannot be licensed in VP) can A-move out of VoiceP, and be licensed higher in the structure.

There are several facts speaking in support of a topic-to-subject grammaticalization process in Balinese and Malagasy (accompanied by a passivization-process of the verb in OV/PV).

Debate over the syntactic status of pivots First, for both languages there are competing accounts as to whether pivots are better analyzed as topics (Pearson, 2001; 2005; Travis, 2011), subjects (Keenan, 1995; Wechsler and Arka, 1998; Arka, 2003; Guilfoyle, Hung, and Travis, 1992; Paul, 2000; Levin, 2014b) or subjects with an obligatory topicalization step (MacLaughlin, 1995; Patrianto and Chen, 2023a). This shows that researchers interpret the syntactic status of pivots differently; most likely because it is neither a clear topic nor subject. Relatedly, researchers have differing ideas as to whether OV/PV is paraphrased/interpreted as active (Pearson, 2001; 2005; Erlewine, Levin, and van Urk, 2017; 2019) or passive (Wechsler and Arka, 1998; Paul, 2000; Udayana, 2013). Again, such a dispute is predicted from an analysis where OV/PV is simultaneously active-like (the verb is transitive) and passive-like (the verb cannot assign accusative).

Distributed subject properties Next, there are several approaches suggesting that in Balinese and Malagasy OV/PV, subject properties are distributed over two elements: the pivot and the agent (Guilfoyle, Hung, and Travis, 1992; Wechsler and Arka, 1998; Arka, 2003; 2019). The pivot may undergo control and bind reflexives, whereas imperatives consistently target the agent, irrespective of pivothood (see Koopman, 2005 for Malagasy and Arka, 2003 for Balinese). My analysis predicts a stage where topics are already subject-like whilst the original subject is not

demoted yet. Hence, it is expected that there exists a stage where subject-properties are spread over two arguments (see also Poole, 2015).

Collapse of OV and passive morphology Another fact that might correlate with this stage in between topic-and subjecthood stems from Balinese passives. In Balinese, the suffix *-a* (when attached to an OV verb) serves as a passive marker, but only in the presence of a *by*-phrase agent. When the agent is dropped, *-a* is understood as 3RD.SG pronoun. Hence, an OV verb is not a true passive (it cannot express an implicit agent), but may be interpreted as such when adding a PP agent.

(93) *Balinese OV/passive collapse* (Arka, 2008: 70)

- a. *Nyoman baang-a pipis taken Wayan*
 Nyoman give-PASS money by Wayan
 'Nyoman was given money (by Wayan).'
- b. *Nyoman baang=a pipis*
 Nyoman OV.give=3SG money
 '(S)he gave Nyoman money.'

To conclude, I argued that the origin of the [A'/A] probe in Balinese and Malagasy roots in a topic-as-subject reanalysis, structurally reflected as a fused projection CP+TP. This projection is both a topic and a subject position, hence combines [A'] features from CP and [A] features from TP. When the pivot corresponds to an internal argument, the reanalysis goes hand in hand with passivization of the verb. OV/PV Voice, thereby, is in between an active head, enabling object topicalization via an [A'] probe and a passive head, promoting the object to subject via a movement-inducing [A] probe. Thus, in OV/PV, the topic-as-subject reanalysis does not only influence the featural make-up of CP and TP, but also of VoiceP.

7.6 The A'/A signature of Balinese & Malagasy

In the first part of this chapter I presented an A'/A analysis for Balinese and Malagasy promotion to pivot, suggesting that they involve an [A'/A] probe on C+T in all voices, and an additional [A'/A] probe on OV/PV Voice. In this second half of the chapter I will investigate the A'/A signature of promotion to pivot, proposing that it involves an A-movement inducing [A'/•A•]. The presence of an [A'/A] probe is reflected in the pivot's information-structural effects, their restriction to ϕ -goals, and A'/A minimality effects. That the [A'/A] probes trigger A-movement is visible from the pivot's interaction with case, obviation of weak crossover, inability to license of parasitic gaps, that promotion to pivot feeds subsequent A-movement and that pivots do not obligatorily reconstruct. One of the composite probes is located on C+T, which may serve as phase-edge, thus enabling long-distance promotion to pivot. The Balinese and Malagasy A'/A signature is summarized in table 7.10, due to restricted space, I primarily focus on OV/PV configurations in the discussion that follows.

case	WCO	anaph. bind.	PG	feeds A-mvt	(re- con- str.)	info- struct. effects	φ- goal	feeds φ- agree	Mini- mality	can cross CP
✓	×	n/a	×	✓	✓/×	✓	✓	n/a	A'/A	✓?
movement = A						probe = [A'/A]				[A'/A] on C

TABLE 7.10: The Balinese and Malagasy *A'/A* signature

7.6.1 Probing head: [A'/A]

Balinese and Malagasy promotion to pivot involves an $[A' / \bullet \phi \bullet]$ probe on C+T and, in OV/PV, also on Voice. $[A' / A]$ probes for a fully fitting goal, that is such which exhibits both $[A']$ and $[A]$ features. This is reflected in the presence of information-structural effects on pivots, the restriction to DPs (and elements that carry ϕ -probes), and A' / A minimality effects. Both languages lack overt ϕ -agreement, hence this criterion is not applicable.

Information-structural effects Both Balinese and Malagasy require their pivots to receive a definite/specific interpretation (in all voices). I propose that this is the result of an $[A']$ feature involved in the search process, restricting potential goals to topic elements, necessarily being definite/specific. In Balinese (94), the pivot either needs to be marked with a definite suffix or accompanied by an existential marker, rendering a specific reading. The same is true for Malagasy, shown in (95).

(94) *Balinese definiteness/specificity* (Patrianto and Chen, 2023a: 12)

- a. **(Ada) anak ng-aukin Rani*
**(EXST) person AV-call Rani*
 'Someone called Rani.' (= There was someone who called Rani)
- b. *Murid*(-e) ba orin wake tuni semengan*
student(-DEF) ASP OV.inform 2SG PAST morning*
 'The/*a student was informed by you this morning.'

(95) *Malagasy definiteness/specificity*

- a. *Nohanin'ny gidro (*ilay) voankazo*
*PST.PV.eat'DET lemur (*that) fruit*
 'That/*some fruit was eaten by the lemur.' (Pearson, 2001: 135)
- b. **Mihira ankizy*
AV.sing child
 Int.: 'Some children are singing.' or 'A child is singing.' (Paul, 2000: 9)

Restriction to noun ϕ -elements Promotion to pivot is restricted to ϕ -elements. PPs cannot be promoted to pivot, evident in Balinese (96).

(96) *Balinese restriction to nominals* (Patrianto and Chen, 2023a: 13)

- a. **Aji kuas-(ne) gae-nang tiang Gede lukisan*
with brush-DEF make-APPL 1SG Gede painting
 Int.: 'I made Gede a painting with the/a brush.'
- b. **Ka umah-ne kirim sayae surate*
to house-DEF send 1SG letter
 Int.: 'I sent a letter to the/a house.'

In Malagasy, a DP originating within a PP can be promoted to pivot (via CV), however, it needs to be reduced to pure DP when becoming the pivot. In (97a), the PP *with a knife* is promoted to pivot and thereby loses its preposition *with*. In the AV counterpart of the sentence (that is when the agent is promoted to pivot instead), the DP *knife* is embedded under the preposition *with*, see (97b).

(97) *Malagasy restriction to nominals* (Paul, 2000: 9)

- a. *Nanapahan'i Sahondra ity hazo ity ny antsy*
 PST.CV.cut.GEN.Sahondra this tree this DET knife
 '(With) the knife the tree was cut by Sahondra.'
- b. *Nanapaka ity hazo ity tamin'ny antsy i Sahondra*
 PST.AV.cut this tree this PST.P.GEN.DET knife Sahondra
 'Sahondra cut this tree with the knife.'

I take this to indicate that the final pivot position (SpecCP+TP) involves a ϕ -probe, which can only agree with a ϕ -goal. When embedded into PP, [ϕ] on DP is not accessible to the probe on C+T. If, however, the prepositional layer is dropped, the DP embedded in it is accessible to the [A'/A] probe. Further, it does no longer need to be licensed by P; C+T can license the nominal within its specifier.

There is one configuration that I have not mentioned so far: clausal pivots. Balinese and Malagasy allow whole complement clauses to be promoted to pivot. Clausal complements (both CPs and TPs) are often assumed to carry ϕ -features (see for example Pesetsky and Torrego, 2007; van Urk and Richards, 2015; Halpert, 2016; 2019). If TPs and CPs carry ϕ -features, it is expected that they can become a pivot, just like a DP can. In Malagasy (98) a matrix verb embedding a complement clause can either be expressed in AV (promoting the matrix agent to pivot, (98a)), in PV (promoting the whole complement clause to pivot, (98b)) or in CV (promoting complement clauses in applied object position to pivot; primarily found with verbs like *urge*, (98c); see also Pearson, 2001).

(98) *Malagasy clausal pivots*

- a. *Mihevitra Rakoto [fa namangy ny dadany ny mpianatra]*
 AV.think Rakoto [C PST.AV.visit DET father-POSS DET student]
 'Rakoto thinks that the student visited his father.' (Pearson, 2001: 176)
- b. *Heverin'dRakoto [fa namangy ny dadany ny mpianatra]*
 PV.think'Rakoto [C PST.AV.visit DET father-POSS DET student]
 '[That the student visited his father] was thought by Rakoto.'
- c. *Anosehan'i Sahondra anay [ny hiditra]*
 CV.push'GEN.Shaondra 1PL [DET FUT.AV.enter]
 'Sahondra urges us to go in.'

(Paul and Ranaivoson, 1998: 117)

Just like Malagasy, Balinese, can promote whole complement clauses to pivot. This is visible in (99), where the matrix verb *know* can either occur in AV, promoting the matrix agent to pivot or in OV, promoting the whole embedded clause.

(99) *Balinese clausal pivots* (Arka, 2019: 291,292)

- a. *Ia sing naw-ang [Nyoman teka]*
 3SG NEG AV.know-APPL [Nyoman come]

'(S)he did not know that Nyoman came.'

- b. [*Nyoman teka*] *sing tawang=a*
 [**Nyoman come**] NEG OV.know=3SG
 '[That Nyoman did not come] was not known by him/her.'

A'/A minimality A further indication that an [A'/A] probe is involved in Balinese and Malagasy is the lack of A-minimality effects. [A'/A] on C+T is not informative on minimality, since it may only see as far as SpecVoiceP, thus only find the external argument. In OV/PV, however, Voice carries an [A'/A] probe too. The A'/A minimality of that probe becomes visible in ditransitives. As already discussed in section 7.4, in Balinese and Malagasy ditransitives either object can be promoted to pivot. In my analysis, this follows from an [A'/A] probe on Voice which can select either the indirect object in ApplP or the lower theme in VP, depending on which one carries the fitting set of features. The examples are repeated below.

(100) *Malagasy ditransitives* (own elicitation, based on Paul, 2000)

- a. *Toloran=ko sary ianao*
 PV.offer=1SG.GEN picture 2SG
 'You are offered a picture by me.'
- b. *Atolotr=o anao ny sary*
 PV.offer=1SG.GEN 2SG.ACC DET picture
 'The picture is offered to you by me.'

(101) *Balinese ditransitives* (Arka, 2019: 271)

- a. *Nyoman beli-ang tiang montor*
Nyoman OV.buy-APPL 1SG motorbike
 'Nyoman is bought Nyoman a motorbike by me.'
- b. *Montor beli-ang tiang Nyoman*
motorbike OV.buy-APPL 1SG Nyoman
 'A motorbike is bought for Nyoman by me.'

φ-Agreement Unfortunately, neither Balinese nor Malagasy exhibit overt morphological φ-agreement, hence this criterion is not attestable.²⁸

7.6.2 Movement chain: A-movement

The [A'/A] probes in Balinese and Malagasy trigger A-movement: promotion to pivot feeds case, obviates weak crossover, does not license parasitic gaps and feeds subsequent A-movement (raising to object). Reconstruction effects are a bit less clear; pivots seem to occasionally but not always obligatorily reconstruct. As for the creation of new antecedents for anaphor binding, I do not have data. Austronesian languages often in general prohibit reflexive agents (cf. Brodtkin and Royer, 2024) and if they allow them, they often require the complex morphological form of reflexived which does not necessarily need a strictly c-commanding antecedent (cf. Satik, 2021; Satik and Bryant, 2023). Thus, I leave out the creation of new antecedents for anaphor binding here.

²⁸Some researchers refer to voice marking as *θ-agreement* (e.g. Sityar, 2000), thus describe voice marking as a form of agreement. This view is questioned at length in Paul, 2000.

Association with case In Balinese, case marking is not morphologically expressed. However, promotion to pivot has an effect on the non-pivot agent: in OV/PV, the non-pivot agent needs to be strictly adjacent to the verb, which I take to be the result of licensing alternations that come along with promotion to pivot (see section 7.4 for arguments). If this is the case, then promotion to pivot has repercussions on case assignment. The Balinese example is repeated below.

(102) *Balinese adjacency of non-pivot agents* (Wechsler and Arka, 1998: 405)

- a. *siap-e* [*uber* *cicing*] *ke jalan-e*
 chicken-DEF [**OV.chase** dog] into street-DEF
 'A dog chased the chicken into the street.'
 b. **siap-e* [*uber* *ke jalan-e cicing*]

Malagasy, opposed to Balinese, expresses (some) morphological case values. It shows a nominative/accusative alternation on pronouns, shown in 7.11.

	NOM	ACC	GEN
1SG	<i>aho</i>	<i>ahy</i>	<i>-ko/-o</i>
2SG	<i>ianao</i>	<i>anao</i>	<i>-nao/-ao</i>
3SG	<i>izy</i>	<i>azy</i>	<i>-ny</i>
1PL INCL	<i>isika</i>	<i>antsika</i>	<i>-ntsika/-tsika</i>
1PL EXCL	<i>izahay</i>	<i>anay</i>	<i>-nay/-ay</i>
2PL	<i>ianareo</i>	<i>anareo</i>	<i>-nareo/-areo</i>
3PL	<i>izy (ireo)</i>	<i>azy (ireo)</i>	<i>-ny/izy ireo</i>

TABLE 7.11: Malagasy case-marking on pronouns (Paul, 2000: 16)

In OV/PV/CV, if a pronoun is promoted to pivot, it is expressed in the unmarked/nominative form (irrespective of its original θ -role in the clause); the non-pivot agent is marked with genitive, see (103a). In AV, the pivot agent is marked nominative, whereas the object is expressed its accusative form, see (103b).

(103) *Malagasy case alternations*

- a. *Hita-ko* *izy*
 PST.PV.see-**1SG.GEN** 3SG.NOM
 'She is seen by me.' (Paul, 2000: 22, glossing adapted)
 b. *Manolotra sary* *anao* *aho*
 AV.offer picture 2SG.ACC **1SG.NOM**
 'I offer you a picture.' (Paul, 2000: 29, glossing adapted)

This indicates that promotion to pivot is associated with case: the element promoted to pivot receives unmarked case, whilst the non-pivot agent is marked as genitive. Thus, promotion to pivot has repercussions on case assignment, indicating that it is A-movement.

No weak crossover effects Promotion to pivot does not induce weak crossover, neither in Balinese and Malagasy. WCO is best visible in OV/PV: a quantifier theme is promoted to pivot, whereby it crosses the external argument (containing a variable). From its landing site, the quantifier can bind the agent variable, rendering a bound variable reading, shown in Malagasy (104a) and Balinese (105a). The bound variable reading is not available in the AV counterpart of the sentences, in which the

theme quantifier stays below the agent, see (104b) and (105b).²⁹ Hence, promotion to pivot does not induce WCO.³⁰ This indicates that pivots undergo A-movement.

(104) *Malagasy weak crossover* (Travis, 1998: 442)

- a. *Norahan'ny vadiny_{i/j} ny vehivavy rehetra_i*
 PST.PV.kiss DET spouse.her DET woman all
 'Every woman_i is kissed by her_i spouse.'
- b. *Nanoroka ny vehivavy rehetra_i ny vadiny_{*i/j}*
 PST.AV.kiss DET woman all DET spouse.her
 'Her_{*i/j} spouse kissed every woman_i.'

(105) *Balinese weak crossover* (own elicitation)

- a. *Sabilang_i anak cenik alih bapa-ne_{i/j}*
 Every person small search.OV father-POSS
 'Every_i child is searched by his_{i/j} father'
- b. *Bapa-ne_{*i/j} ngalih sabilang_i anak cenik*
 father-POSS search.AV every person small
 'His_{*i/j} father searches every_i child.'

Parasitic gaps Malagasy promotion to pivot does not license parasitic gaps. In (106), promotion to pivot of the theme (*bread*) does not license the parasitic gap *after cut* __ *with the knife*. This indicates that Malagasy pivots have A-moved. Unfortunately, I am not aware of comparable data for Balinese.³¹

- (106) **Nohanin' ny zaza ny mofo* [*rehefa nandidy* __ *tamin' ny antsy*
 PST.PV.eat DET child DET bread [after PST.AV.cut __ PST.with DET knife
ny rainy]
 DET father.3POSS]
 Int.: 'The bread was eaten by the children after their father cut (it) with the
 knife.'
Malagasy PG (own elicitation)

²⁹ Assuming that QR does not happen in these languages or is a form of A'-movement.

³⁰ Wechsler and Arka, 1998 state that Balinese induces weak crossover. However, they only present a ditransitive example where weak crossover arises from moving the theme over the goal. Our consultant (in multiple tests) showed that promotion to pivot of a theme across an agent obviates WCO, as shown in (105). He was not able to evaluate example (i) from Wechsler and Arka, 1998, stating he had overall trouble parsing it, both with a bound and a free variable interpretation. The ungrammaticality of (i) therefore might have another source and not show WCO after all.

(i) *Balinese weak crossover* (Wechsler and Arka, 1998: 428)

- a. *Sabilang jlema_i edeng-in=a t potrekan-ne_i*
 every person OV.show-APPL=3 t picture-POSS
 'Every person_i, (s)he showed his/her_i picture.'
- b. **sabilang potrekan_i edeng-in=a jleman-ne_i t*
 every picture OV.show-APPL=3 person-POSS t
 Int.: 'Every picture_i, (s)he showed (to) its_i owner.'

³¹ We tried to test PGs in our Balinese elicitation; however, Balinese allows object drop, and we did not have enough time to test whether the examples are instances of true PGs or solely *pro* objects. Given the fact that Balinese promotion to pivot constitutes A-movement in all other respects, I assume that the grammaticality below is due to object drop and not due to a proper PG.

- (i) *Nyuh ajeng tiang* [*sasuud Nyoman mayah* __/*pro*]
 Coconut eat.OV I [after Nyoman AV.pay __/*pro*]
 'The coconut was eaten by me after Nyoman paid for (it).'
Balinese PG/object drop (own elicitation)

Feeding subsequent A-movement Balinese and Malagasy promotion to pivot can feed subsequent A-movement: a pivot can undergo raising to object to a higher clause. Paul and Rabaovololona, 1998 suggest that the second movement step (raising to the matrix clause) is A-movement; hence, the first step must have been A-movement too. The embedded clause is introduced by a complementizer *ho*³² and depicts a full CP (according to Paul and Rabaovololona, 1998). In (107a), the embedded pivot *he* is raised out of an AV complement clause to become the matrix object. (107b) shows that the same is possible out of a PV complement clause (the embedded pivot *chicken* raises to matrix object position).

- (107) *Malagasy raising to object* (Paul and Rabaovololona, 1998: 51,52)
- a. *Miaiky azy [ho nandoko trano t] ny olona*
 AV.admit 3SG [C PST.AV.paint house t] DET person
 'The people admit him to have painted a house.'
 - b. *Nilaza an'ila akoho [ho novonoiko tamin'ity antsy ity t]*
 PST.AV.say DET **chicken** [C PST.PV.kill.1SG with'this knife this t]
Rabe
Rabe
 Lit.: 'Rabe said this chicken to have been killed with this knife.'

A similar construction can be found in Balinese, where an embedded pivot may raise to matrix object position, both from an embedded AV (108a) as well as OV clauses in (108b).

- (108) *Balinese raising to object*
- a. *Bapa tawang tiang [t ngopi ditu]*
father OV.know 1SG [t AV.drink.coffee there]
 'I know that father drank coffee there.' (Arka, 2019: 265)
 - b. *Ia nawang Wayan [t lakar tangkep polisi]*
 3SG AV.know **Wayan** [t FUT OV.arrest police]
 'He knew that Wayan would be arrested by the police.'
 (Wechsler and Arka, 1998: 397)

Note that in the first Balinese example, the pivot raised from the embedded clause becomes the pivot of the matrix clause; thus it depicts a form of long-distance promotion to pivot. In the Malagasy examples (107), as well as example (108b) from Balinese, the matrix pivot stays the same, irrespective of raising. Long-distance promotion to pivot is also grammatical in Malagasy, see the subsequent section 7.6.3 for a short discussion.

Reconstruction effects Last, reconstruction effects, although not as clearly as the properties listed above, indicate that promotion to pivot involves an A-movement chain. Malagasy lacks reconstruction for principle C. In a base-line AV example (109a), a theme R-expression (*Rakoto's child*) is co-indexed with an agent pronoun; this violates principle C, hence the example is ungrammatical. If the R-expression is promoted to pivot under PV, as in (109b), co-indexation between the pronoun and the R-expression becomes grammatical. Thus, promotion to pivot does not reconstruct for principle C; if it did, the outcome would remain ungrammatical.

³²Paul and Rabaovololona, 1998 indicate that there are *ho* alternates with another complementizer, *fa*. Whilst *fa* introduces full propositional CPs, *ho* potentially corresponds to reduced CP complements (lacking some of the left peripheral projections).

(109) *Malagasy reconstruction for principle C* (Paul, 2002: 112)

- a. **Nanamby ny zana-dRakoto_i ariary folo izy_i*
 PST.AV.hire DET child-GEN.Rakoto ariary ten 3SG
 Int.: 'He_i hired Rakoto_i's child for 10 ariary.'
- b. *Notambazany_i ariary folo ny zana-dRakoto_i*
 PST.PV.hire.GEN.3SG ariary ten DET child-GEN.Rakoto
 'Rakoto_i's child was hired by him_i for 10 ariary.'

Unexpectedly and opposed to Malagasy, Balinese shows reconstruction for principle C; promotion to pivot cannot salvage an underlying principle C violation. This is visible from (110b) where an R-expression (*Wayan's father*) has been promoted to pivot from an position in which it is bound. The promoted R-expression reconstructs, the binding violation from the base-line in (110a) pertains.

(110) *Balinese reconstruction for principle C* (own elicitation)

- a. **Ia_i ng-alih bapan i Wayan-e_i*
 3SG AV.search father Wayan-POSS
 Int.: 'He_i searches for Wayan_i's father.'
- b. **Bapan i Wayan-e_i alih ia_i*
 father Wayan-POSS OV.search 3SG
 Int.: 'Wayan_i's father is searched for by him_i.'

The observed reconstruction effects support A-movement of pivots in Malagasy but not directly in Balinese. The presence of principle C reconstruction in Balinese might root in the fact that reconstruction under A-movement is not obligatory but can be optionally possible. Hence the presence of reconstruction in Balinese is not yet an argument against A-movement of the pivot; its presence might be a residual of the topic-to-subject grammaticalization that pivots are subject to. What would be more concerning is the absence of reconstruction under A'-movement.

7.6.3 [A'/A] is located on C

Both Balinese (Arka, 2019) and Malagasy (Pearson, 2005) exhibit long-distance promotion to pivot, where the pivot of an embedded complement clause becomes the pivot of the matrix clause. Long-distance pivot movement appears to be possible out of all complement clause sizes; even such that correspond to *propositional* clauses (in terms of Wurmbrand and Lohninger, 2023) and involve a complementizer, i.e. most likely are full CPs, see (111). A similar configuration can be found in Balinese, repeated from above in (112).

(111) *Heverin-dRabe [(fa) didian' ny vehivavy amin'ny antsy t] ny mofo*
 PV.think-Rabe [(that) PV.cut DET woman with-DET knife t] DET bread
 'The bread, Rabe thinks (that) the woman is cutting (it) with the knife'
Malagasy long-distance pivot (Pearson, 2005: 434; own elicitation)

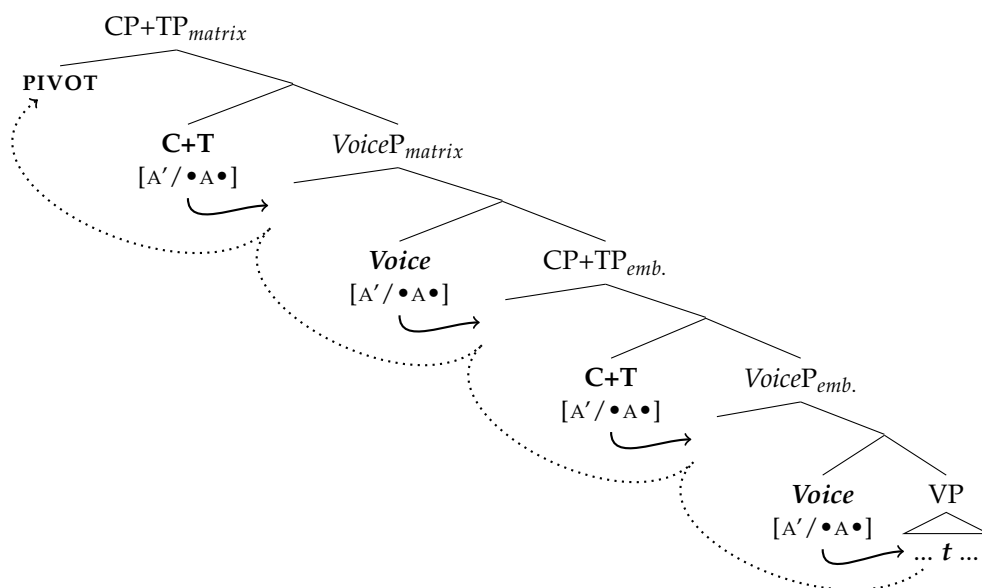
(112) *Balinese long-distance pivot* (Arka, 2019: 265)

- a. *Bapa tawang tiang [t ngopi ditu]*
 father OV.know 1SG [t AV.drink.coffee there]
 'I know that father drank coffee there.'
- b. *Bapa tawang tiang [t bah ditu]*
 father OV.know 1SG [t OV.collapse there]
 'I know that father collapsed there.'

The examples in (111) and (112) translate either to a form of long passivization or to long-distance topicalization. The exact syntax of long-distance promotion to pivot is subject to much discussion and the scope of this thesis is too narrow to present an in-depth study. Long-distance promotion to pivot exists in many Austronesian languages; most accounts assume that the matrix verb needs to first take the whole embedded clause as pivot, out of which the embedded pivot can then be sub-extracted (see for example Chung, 1998 for Chamorro; Paul, 2000 for Malagasy; Rackowski and Richards, 2005 for Tagalog). Some accounts derive long-distance promotion to pivot via phase unlocking (Richards, 1998; van Urk and Richards, 2015; Halpert, 2016); the matrix verb agrees with the whole embedded clause, thereby, its phasehood vanishes and the pivot can be extracted (see for example Rackowski and Richards, 2005 for Tagalog). Pearson, 2005, on the other hand, takes long-distance pivoting (in Malagasy) to be a form of prolepsis, with the pivot being base-generated in the matrix clause and co-indexed with an embedded operator. Unfortunately, there is very little data on the A'/A status of long-distance pivots and whether they exhibit the same A-movement profile as local promotion to pivot (although see Katochoritis, 2024, arguing that matrix pivoting appears to have more A'-properties than local promotion to pivot).

I suggest an alternative proposal for long-distance promotion to pivot, namely successive-cyclic movement through CP+TP and VoiceP to the matrix clause.³³ As argued in section 7.4, I propose that the landing-site of pivots is a fused CP+TP projection. I assume that this position is high enough in the left periphery to serve as a phase-edge and allow the pivot to leave its clause and become accessible to a higher probe; [A'/A] on matrix Voice. This [A'/A] probe may take either the whole embedded clause as pivot (see clausal pivots in section 7.6) or extract the embedded pivot out of embedded SpecTP+CP, promoting it to become the pivot of the matrix clause. Thereby, long-distance promotion to pivot is, in a way, both a form of long-passive and a form of long-distance topicalization, as it depicts successive-cyclic A-movement across CP. The structure is shown in (113).

(113) Long-distance promotion to pivot mediated by [A'/A] probes



³³The exact implementation of this account requires further research.

I leave open for future research/fieldwork if matrix pivoting exhibits the same A-movement properties as local promotion to pivot does and how this account could, after all, be combined with a form of phase-unlocking as proposed in Rackowski and Richards, 2005 or van Urk and Richards, 2015.

7.7 Conclusion

In this chapter I brought forward an *A'/A* analysis for promotion to pivot in Balinese and Malagasy, loosely based on van Urk, 2015, Erlewine, Levin, and van Urk, 2019 and, to some extent, Levin, 2014b. I suggested that promotion to pivot is the result of a $[A'/\bullet\phi\bullet]$ probe in the left periphery (more specifically, on a fused head *Top+T*). This composite probe attracts a $[\text{topic}/\phi]$ DP and moves it to *SpecTopP+TP*, where it is licensed as subject. *OV/PV* constructions further involve an additional $[A'/\bullet\phi\bullet]$ probe on Voice; *OV/PV* configurations (that is clauses in which an object is promoted to pivot) resemble non-canonical passives. Their VoiceP thematically introduces an agent but is not able to license any of its arguments. As a result, it is merged with an $[A'/\bullet\phi\bullet]$ probe, enabling the object to A-move out of the voice domain and be licensed higher within the clause, in *SpecCP+TP*. The two configurations are summarized in table 7.12.

	C+T	Voice
AV	$[A'/\phi]$	$[A'/\phi], +\text{ACC}$
OV/PV	$[A'/\phi]$	$[A'/\phi], -\text{ACC}$

TABLE 7.12: $[A'/A]$ probes in Balinese and Malagasy

Promotion to pivot thereby is an *A'/A* configuration, a pivot an element between a topic and a subject and voice morphology is derived by the insertion of different Voice heads. I suggested that the mixture of topic- and subjecthood, and the presence of the composite probe respectively, stems from an ongoing topic-as-subject reanalysis in Austronesian languages, going hand-in-hand with passive formation in the *OV/PV* voice domain. Balinese and Malagasy are in the middle of this reanalysis process, hence their pivots are simultaneously topic-like *A'*- and subject-like *A*-elements. Note that the presence of an $[A'/A]$ probe on non-canonical passive heads is not unusual: Mandarin and Khanty passives both have been analyzed in a similar way. Balinese and Malagasy promotion to pivot depicts the following *A'/A* signature: it involves $[A'/\bullet A \bullet]$ probes, triggering A-movement; some of them are located on C, thus enabling long-distance movement. The empirical distribution *A'/A* properties in these constructions is predicted under the composite probe approach I brought forward.

Chapter 8

The cross-linguistic A'/A Signature

8.1 Introduction

In the preceding two chapters I presented A'/A analyses for CCA constructions (chapter 6) and promotion to pivot in Balinese and Malagasy (chapter 7). Whilst these analyses are—to some extent—based on existing approaches (e.g. an A'/A analysis for CCA is brought forward in Wurmbrand, 2019; Mursell, 2020; 2021; Lohninger, Kovač, and Wurmbrand, 2022 and to some extent Alboiu and Hill, 2013; 2016. A'/A analyses for promotion to pivot can be found in Erlewine, Levin, and van Urk, 2019; Erlewine, 2018; Lohninger and Katochoritis, to appear and to some extent in van Urk, 2015), the two last chapters were to a large part concerned with establishing an exact syntactic implementation of composite probing in these constructions. The current chapter focuses on languages for which there already exist explicit [A'/A] analyses: Dinka extraction (van Urk, 2015), Mandarin Chinese BEI passives and low topics/foci (Chen, 2023) as well as Khanty passives (Colley and Privoznov, 2020) (and, in a brief final note, English *tough*-movement, Longenbaugh, 2017). For the sake of space, I will only briefly walk through the suggested analyses (I refer the reader to the original works) but focus on the empirical A'/A signatures of the configurations under investigation; all of them are predicted and can be accounted for by the composite probe syntax and A'/A signature presented in chapter 4 and 5. The aim of this chapter is to highlight the strict systematicity we find in the distribution of A'/A properties in composite constructions. I do not intend to redefine or criticize the syntactic accounts presented in van Urk, 2015, Chen, 2023, or Colley and Privoznov, 2020. Rather, I show that they are compatible with what is argued for in this thesis and fit neatly into a larger, comparative picture. The only refinement I make is that, whilst all three accounts speak of a "mixed A'/A movement chain", I speak of either A- or A'-movement. This claim does not change the existing analyses, only refines the terminology. Overall, I propose that all composite probes under discussion in this thesis can be captured under the uniform composite probe syntax proposed in this thesis, summarized in table 8.1. This analysis does not contradict any of the proposals van Urk, 2015; Chen, 2023 or Colley, 2018 make (in fact, it incorporates many of them); it merely refines the fuzzy edges they leave open.

<i>In a nutshell: the [A'/A] syntax of chapter 4</i>	
i) [A'/A] probes for a fully fitting goal (= a goal that carries [ϕ] and [A'])	$\Rightarrow$ 4.6
ii) [A'/A] probes can trigger A-movement (when merged as [A'/•A•]) or A'-movement (when merged as [•A'•/A])	$\Rightarrow$ 4.7
iii) [A'/A] probes are not sensitive to partially fitting goals (= A'/A minimality; no defective intervention)	$\Rightarrow$ 4.8
iv) [A'/A] probes can occur on different heads: primarily on C and/or Voice	$\Rightarrow$ 4.9
v) As a language-specific last-resort option, [A'/A] probes can split up and probe independently	$\Rightarrow$ 4.10

TABLE 8.1: In a nutshell: the [A'/A] syntax

The syntax in table 8.1 provides us with the tools to explain the empirical patterns (= A'/A signatures) we find across composite derivations. It is flexible enough to allow for variation in three factors; i) the movement chain (A' or A), the probing head ([A], [A'] or [A'/A]) and iii) the location of the probe (C or below). The combinatorial possibilities of i)-iii) predict different A'/A signatures, all of which are attested empirically. At the same time, the proposed syntax is restrictive enough to only predict a very small set of A'/A signatures, and exclude unattested patterns. The aim of this chapter is to show that the empirical A'/A signatures of Dinka, Mandarin Chinese and Khanty follow straightforwardly if we assume that composite [A'/ ϕ] probes follow the proposed syntax. In the end of this chapter, I briefly discuss English *tough*-movement which has received an A'/A analysis (Longenbaugh, 2017) but exhibits a slightly divergent A'/A signature from what we expect. Eventually, I diverge from an A'/A analysis for *tough*-movement, however, present Longenbaugh's proposal for the sake of completeness.

The chapter is structured as follows: in section 8.2, I discuss topicalization/ promotion to pivot in Dinka (van Urk, 2015). Section 8.3, focuses on Mandarin Chinese BEI passives and low topics/focus, for which Chen, 2023 presents an [A'/A] approach. In section 8.4, I investigate passivization in Khanty, which received an [A'/A] analysis in Colley and Privoznov, 2020. Last, in section 8.5, I briefly touch upon English *tough*-movement, for which Longenbaugh, 2017 presents an A'/A analysis.

8.2 Dinka extraction

The first instance of [A'/A] probing is found in Dinka extraction (promotion to pivot/topicalization, wh-movement and relativization) for which van Urk, 2015 proposes that is induced by an [A'/ ϕ] probe both on C and on *v*/Voice.¹ Here, I focus

¹As for Voice, van Urk, 2015 differs in how he describes the [A] probe; usually as [ϕ], but occasionally also as [EPP], or [Case] licensing feature (see also van Urk and Richards, 2015). There is no overt ϕ -agreement on Voice/the non-finite verb; nevertheless, van Urk uses [ϕ] as the probing feature, stating that it is only abstractly realized but not overtly present. For the sake of simplicity, I use [ϕ] too—mainly as an indication that the probe selects for a certain kind of goal (nominal/ ϕ -goal) and induces A-movement. I am aware that eventually, this is most like not the clearest way of implementing the feature set on Voice.

on examples from topicalization/promotion to pivot;² (1) is an instance where the object *food* is topicalized/promoted to pivot to a clause-initial A-position.

- (1) *Cuḡin à-céem Áyèn nẹ pǎal*
food 3S-eat.OV Ayen.GEN P knife
 'Food, Ayen is eating with a knife.'

Dinka, like Balinese and Malagasy (discussed in chapter 7), exhibits a morphological voice system and in each clause promotes one argument to pivot. van Urk, 2015 terms this process "topicalization"; for the sake of clarity, I will stick to his terminology. Whenever I use the term "pivot", I mean the topicalized element. Pivots are indicated by a morphological voice marker on the finite verb (agent/subject voice (SV), object voice (OV) and oblique voice (OBLV)) and fronted to clause-initial position. In this position, they receive unmarked case (expressed by tone). In OV/OBLV constructions, that is when an argument other than the agent is topicalized, the agent is expressed with a genitive marker, also termed "marked nominative" (see König, 2006; 2008). Three examples for the different voices are given in (2). I gloss the examples in line with van Urk, 2015; SV = subject voice; OV = object voice; OBLV = oblique voice. The three correspond to the Austronesian voice-markers (chapter 7) in the following way: SV = AV; OV = TV; OBLV = CV. For the sake of clarity, I keep van Urk's glosses.

- (2) *Dinka Voice system* (van Urk, 2015: 61)
- a. *Áyèn à-càm cuḡin nẹ pǎal*
Ayen 3S-eat.SV food P knife
 'Ayen is eating food with a knife.'
 - b. *Cuḡin à-céem Áyèn nẹ pǎal*
food 3S-eat.OV Ayen.GEN P knife
 'Food, Ayen is eating with a knife.'
 - c. *Pǎal à-céemḡ Áyèn cuḡin*
knife 3S-eat.OBLV Ayen.GEN food
 'With a knife, Ayen is eating food.'

SV promotes the agent to pivot, OV the object and OBLV an oblique argument or adjunct. Further, Dinka depicts strict verb second (V2) word order, not only with the finite verb but also within the Voice domain (see also van Urk and Richards, 2015). This means, the position preceding the finite verb as well as SpecVoiceP must be overtly occupied. As in all V2 languages, the finite verb moves to C and SpecCP has to be filled by one (and only one) constituent (the topic/pivot or a trace thereof). In Dinka, VoiceP behaves parallel to that: SpecVoiceP must be filled, either by the internal argument or a trace thereof. This is depicted in (3); (3a) is an SV structure where the agent (*Ayen*) fills SpecCP in front of the finite verb and the object (*food*) fills SpecVoiceP in front of the non-finite verb. In an OV construction like (3b), the internal argument (*food*) is moved to SpecCP, thereby satisfies the V2 requirement of both C and Voice: it overtly fills SpecCP and its trace fills SpecVoiceP.

- (3) *Dinka V2 in CP and VoiceP* (van Urk, 2015: 61)
- a. [_{CP} *Áyèn à-cé* [_{VoiceP} *cuḡin câam nẹ pǎal*]]
 [_{CP} **Ayen** 3S-prf.SV [_{VoiceP} food eat.NF P knife]]

²Dinka wh-extraction appears to involve (pseudo-)clefting in Dinka and even though van Urk, 2015 states that this does not change its A'/A behavior, I stick to the clearest movement patterns; topicalization/promotion to pivot.

- 'Ayen has eaten food with a knife.'
- b. [_{CP} *Cuñin à-cñi* *Áyèn* [_{VoiceP} *t cāam nẹ pǎal*]]]
 [_{CP} **food** 3S-PRF.OV Ayen.GEN [_{VoiceP} *t eat.NF P knife*]]]
 'Food, Ayen has eaten with a knife.'

8.2.1 A'/A analysis

van Urk, 2015 proposes an analysis in which both C and Voice³ host a composite [A'/φ] probe and induce movement of a fitting goal to their specifiers. In van Urk's terminology, this is A'/A movement; in my terms, both [A'/φ] probes attract A-movement (this means they are merged as [A'/•φ•]). According to van Urk, 2015, Dinka voice-morphology is an extraction-marker: it indicates which argument has been moved to SpecCP, similar to English *do*-support. If the agent has been promoted to pivot/topicalized, the finite verb expresses SV morphology (default), whereas if the object has been promoted, it exhibits OV morphology. In cases where an oblique is moved to SpecCP, the verb shows OBLV form. He proposes that the Dinka Voice system is unrelated to case-licensing or argument-structure alternations and voice morphology itself is established high in the structure (on C). Even though the pivot/topic argument receives unmarked case in SpecCP, it does not move there for case-licensing reasons: objects that end up in the pivot/topic position have been licensed before. They solely receive additional unmarked case in this final position. Relatedly, the pivot/topic position does not replace the canonical subject position in SpecTP, which exists independently and hosts the subject (in non-SV contexts). Note that this means that [A'/A] on C and on Voice can attract two distinct goals: Voice can attract the object to SpecVoiceP whilst [A'/A] on C attracts the subject to SpecCP; the object can remain in SpecVoiceP. Since the locus of voice morphology is C, such a configuration then exhibits SV morphology (see also later in this section). As for the probes involved, in van Urk's analysis, both C and Voice are equipped with [φ] and a flat [A']. Last, [A'/A] on both heads can split up and probe independently if no fully fitting goal is available.

Dinka thereby is, in various aspects, different from what I suggested for Balinese and Malagasy in chapter 7; I discuss the exact distinction between the two pivot-systems in section 8.2.2. Before doing so, I walk through the derivations of OV, SV and OBLV in Dinka. I follow the analysis in van Urk, 2015, though adapt it to my terminology: I add which probe serves as movement trigger (indicated by •), thereby which movement chain is involved.

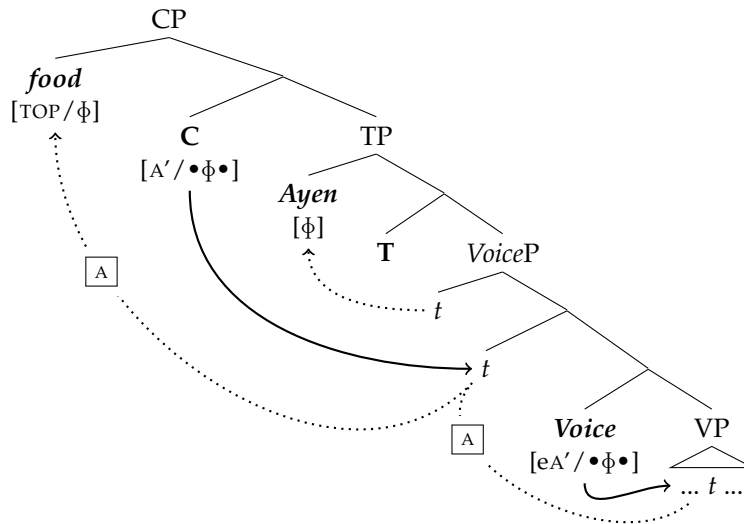
Object Voice

As in all derivations, both C and Voice are equipped with [A'/φ]. In OV constructions, the object carries an [A'] feature whilst the subject is a pure [φ]-goal. First, [A'/φ] on Voice probes down. The object constitutes a fully fitting goal and is attracted to SpecVoiceP (where, under his approach, it is also licensed, although this is irrelevant for the moment). In van Urk's analysis, the raised object tucks in below the external argument; for my analysis, this is irrelevant as I do not assume that VoiceP specifiers are hierarchically ordered. Then, TP is built and the agent is moved to SpecTP where it is licensed as a subject (in OV, the agent does not carry an [A'] feature). Next, CP is merged and [A'/φ] on C probes. In its search space, there is a [φ]

³In van Urk, 2015, it is *v* not Voice that hosts the composite probe and constitutes the phase edge as well as determines spellout; I use VoiceP here for uniformity, nothing much hinges on whether we employ Voice or *v* as phasal.

subject in SpecTP and a $[\text{top}/\phi]$ object in SpecVoiceP. Given that C searches for a full fit, it skips the subject in SpecTP, attracts the (better fitting) object in SpecVoiceP, and moves it to SpecCP. Thereby, the finite verb in C obtains morphological OV marking. The object receives unmarked case in SpecCP (overwriting the case it might have received before) whereas the subject in SpecTP is genitive marked. The genitive is either a form of marked nominative (König, 2006; 2008) or a form of last-resort licensing (as the subject would otherwise be licensed in SpecCP) and, according to van Urk, 2015, triggered by a covert PP shell that it obtains when not becoming the pivot. An OV example is shown in (4) with its respective structure in (5).

- (4) *Cuŋin à-céem Áyèn nè pǎal*
food 3S-eat.OV Ayen.GEN P knife
 ‘Food, Ayen is eating with a knife.’ Dinka OV (van Urk, 2015: 61)
- (5) *Derivation of Dinka OV*



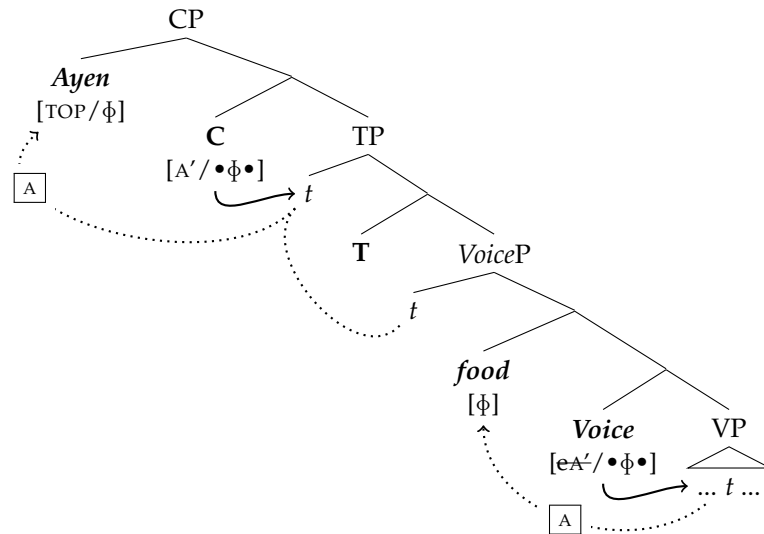
Subject Voice

SV arises if the object is a bare $[\phi]$ goal whilst the agent carries $[A']$ and $[\phi]$. First, $[A' / \bullet\phi\bullet]$ on Voice probes down. Since the object lacks an $[A']$ feature, there is no fully fitting goal available to Voice. As a result, $[A']$ and $[\phi]$ split up and search independently. $[\phi]$ finds the object and moves it to SpecVoiceP. Since there is no bare $[A']$ goal available (let us assume for the moment that there is none), $[A']$ fails. van Urk, 2015 (following Preminger, 2009; 2011) states that failure of $[A']$ does not cause a crash. Then TP is built and moves the agent to SpecTP.⁴ Last, CP is merged and $[A' / \bullet\phi\bullet]$ on C finds the subject in SpecTP, which carries both an $[A']$ as well as $[\phi]$ features. C A-moves the subject to SpecCP, where it triggers SV morphology and receives unmarked case. The object is licensed in SpecVoiceP. This renders example (6), represented in structure (7).

- (6) *Áyèn à-càm cuŋin nè pǎal*
Ayen 3S-eat.SV food P knife
 ‘Ayen is eating food with a knife.’ Dinka SV (van Urk, 2015: 61)

⁴van Urk, 2015 is not straightforwardly clear about this step, however, I assume that this must be the case in order to fill the canonical subject position.

(7) Derivation of Dinka SV



van Urk, 2015 seems to implicitly assume that always only one argument carries an [A'] feature. What if, in (7), the object, additional to the subject, would carry [A'] too? Then both the object in SpecVoiceP as well as the subject in SpecTP would depict full fits; given A'/A minimality, C would still attract the closer subject and render a SV clause with the object remaining in SpecVoiceP. The outcome would look exactly the same. Last, what if neither the object nor the subject carry an [A'] feature? Then an oblique can be attracted, rendering OBLV.

Oblique Voice

In oblique voice, neither the object nor the subject carry an [A'] feature and an oblique is promoted to pivot, as the instrumental *with a knife* in example (8). When becoming a pivot, the oblique is transformed into a nominal and loses its preposition *with* (in order to φ-agree with C and receive unmarked case).

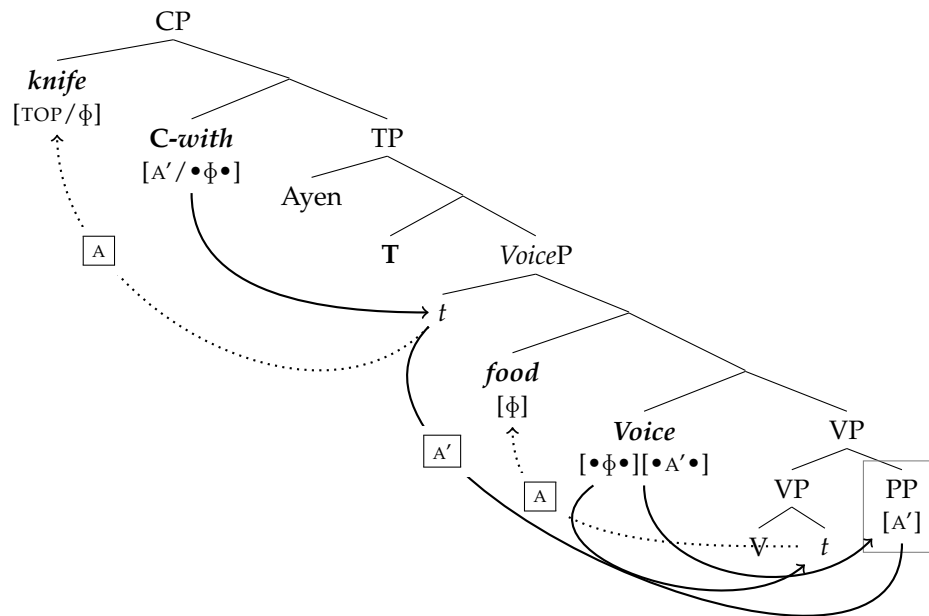
- (8) *Pǎal à-céemè Áyèn cuḡin*
 knife 3S-eat.OBLV Ayen.GEN food
 'With a knife, Ayen is eating food.'
Dinka OBLV (van Urk, 2015: 61)

If not promoted to pivot, the oblique *knife* is embedded under the preposition *with*, shown in the OV counterpart in (9) (where the theme *food* is the pivot).

- (9) *Cuḡin à-céem Áyèn nè pǎal*
 food 3S-eat.OV Ayen.GEN P knife
 'Food, Ayen is eating with a knife.'
Dinka OV (van Urk, 2015: 61)

The syntax van Urk suggests for OBLV is a bit more complex than the ones for SV and OV. I will briefly walk through it, however, it will not be highly relevant for the rest of the chapter. As noted above, along with the OV derivations, van Urk assumes that [A'/A] can split up if it does not find a fitting goal (see also chapter 4 of this thesis). In OBLV, the theme object (*food* in (9)) only carries a [φ] feature, whilst the lower oblique exhibits a bare [A'] goal. The [φ]-features of *knife* embedded under *with* are not accessible due to the PP shell. Thereby, [A'/φ] on Voice sees the following: a [φ] object (*food*) and an [A'] PP (*with a knife*). As neither of the two

depicts a fully fitting goal, $[A' / \phi]$ on Voice splits up: its $[\phi]$ attracts the object and its $[A']$ attracts the PP. Both move to (multiple) SpecVoicePs. From there, they are both accessible to $[A' / \phi]$ on C. C allows a process of pronoun incorporation, in which the nominal is extracted out of PP. Thereby, the nominal (*knife*) becomes the pivot whilst the pronoun (*with*) is incorporated into C. The respective structure is depicted in (10).

(10) *Derivation of Dinka OBLV*

Under this analysis, first the whole PP undergoes A'-movement to SpecVoiceP. In a second movement step, the DP embedded within it undergoes A-movement (or in van Urk's terms, A'/A movement) to SpecCP; note that this is a form of smuggling, and thereby circumvents the BIM (even though not explicitly stated in van Urk, 2015, this is what I assume).

In all three voices (SV, OV and OBLV) the element moved to SpecCP exhibits all properties of A-movement suggested in this thesis: it obviates WCO, does not need to reconstruct, is case-assigned in its landing site and feeds into subsequent A-movement. That it was probed for by [A'/A] is visible from the fact that it has to be both a nominal as well as an information-structurally marked element (a topic), feeds ϕ -agreement and is A'/A minimal. The empirical data showing this follows in section 8.2.3.

Independent probing

As already noted above, van Urk, 2015 proposes that Dinka composite probes allow to split up if no fully fitting goal is found, and, as worst case [A'] can fail. Thus, Dinka allows all three stages of the independent probing hierarchy proposed in chapter 4 (section 4.10): *probe together* » *split* » *fail*. *Probe together* happens in OV derivations. *Split* is observable in adjunct extraction (triggering OBLV): there, the [A' / A] probe on Voice only finds a bare [ϕ] object and a bare [A'] adjunct. As a result, it splits up and moves both goals to multiple SpecVoicePs. From there, the adjunct moves further to SpecCP. *Fail* is observable when no element in Voice's search domain carries [A']:

then, the $[\phi]$ probe alone attracts the closest object whilst the $[A']$ probe remains unvalued. SV constructions depict an instance of *fail* (on Voice), as only the agent is marked with $[A']$. Thereby, the agent serves as a full fit for C, but Voice has to attract a bare $[\phi]$ object to its specifier.

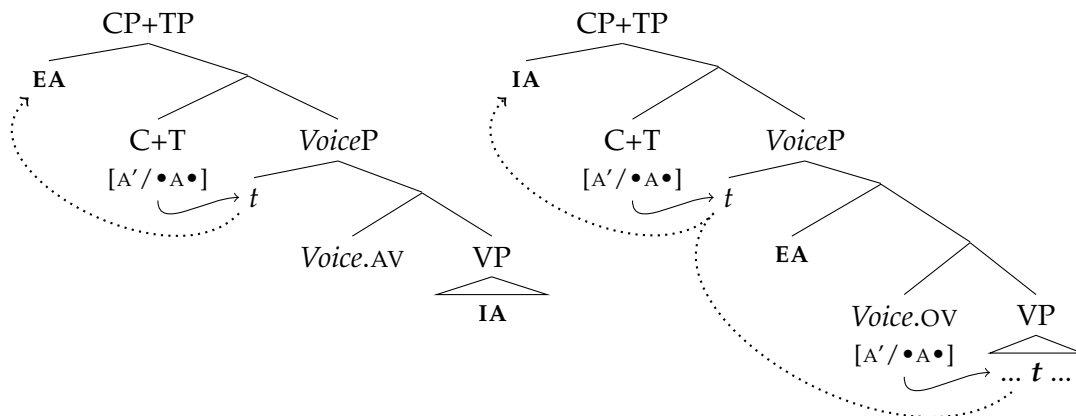
8.2.2 Distinction between Dinka and Balinese/Malagasy

Both Dinka as well as Balinese and Malagasy exhibit a voice system and have been analyzed as composite probing in this thesis; thus one might wonder how much the two resemble each other. I suggest that they are similar but not alike (at least under my analysis of Balinese and Dinka). The main distinction setting them apart is that in Dinka, voice marking appears to be an extraction marker of fully transitive clauses, established high in the clause (on C), whereas in Balinese and Malagasy voice-marking appears to root in the quality of the Voice head itself. This has repercussions on the whole syntax of the two derivations, primarily in terms of subjecthood and argument structure.

Recap of Balinese and Malagasy Before we start the comparison, here is a brief recap of the A'/A syntax I proposed for Balinese and Malagasy promotion to pivot. I suggested that the final landing site of pivots is a merged CP+TP projection (TopP+TP, to be precise) which depicts both the canonical subject position as well as a topic position. C+T carries an $[A'/\phi]$ probe and serves as the locus for nominal licensing. In AV, only C+T carries a composite probe whereas Voice is merged as a regular transitive head (without $[A'/A]$ and able to license its internal argument). In OV/PV, Voice is merged as a non-canonical passive head; it carries an $[A'/\phi]$ probe, thematically introduces two arguments, but can license neither one of them. In an OV/PV clause, SpecCP+TP serves as the only locus of nominal licensing. OV/PV builds in the following way: Voice is merged with $[A'/A]$ and attracts the object (which is an A'/A goal) to SpecVoiceP. From there, the object becomes accessible to $[A'/A]$ on C+T and A-moves to SpecCP+TP (where it is licensed). The agent remains in SpecVoiceP and is licensed via last-resort verbal adjacency (in Malagasy this also involves the insertion of morphological genitive case). (11) presents a showcase example from Balinese (AV and OV), the respective structures are depicted in (12).

- (11) *Balinese promotion to pivot* (Arka, 2003: 5)
- a. *Tiang numbas bawi-ne punika*
 1SG AV.buy pig-DEF punika
 'I bought the pig.'
 - b. *Bawi-ne punika tumbas tiang*
 pig-DEF that OV.buy 1SG
 'The pig was bought by me.'

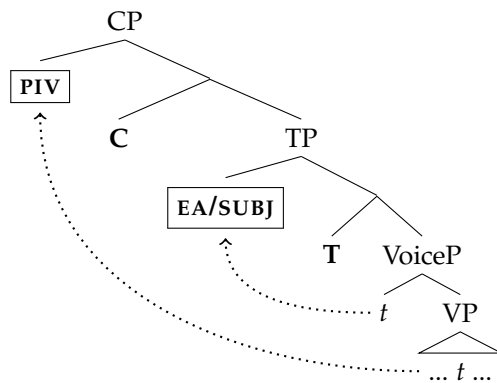
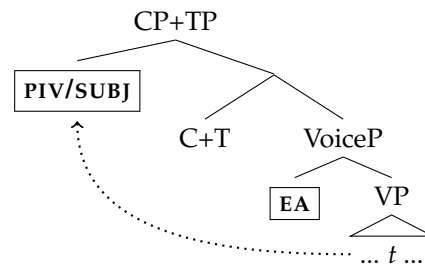
- (12) a.
- Balinese/Malagasy AV*
- b.
- Balinese/Malagasy OV/PV*



Dinka promotion to pivot differs from Balinese and Malagasy in the following (inter-connected) aspects: i) whether the pivot position collapses with the canonical subject position, ii) where the locus of voice morphology is (on C or on Voice), iii) where and how nominals in OV/PV are licensed, and iv) how [A'/A] probes are distributed over the clausal spine and thereby how they enter the derivation.

The canonical subject position: According to van Urk, 2015, in Dinka, the pivot/topic does not replace the canonical subject. C carries [ϕ]-features but SpecTP still serves as the regular subject position.⁵ Opposed to that, in Balinese and Malagasy, I suggested that the pivot position (SpecTopP) and the canonical subject position (SpecTP) are fused into one; thereby, the pivot in SpecCP+TP is both a topic and a subject. I supported this claim with the fact that in both languages, it is always the pivot that is targeted in control constructions and replaced by PRO (assuming that control tracks the subjecthood status of an argument; Keenan, 1976; Dixon, 1994). Put together, in Dinka OV the external argument occupies the subject position (SpecTP) and the pivot an A-like topic position (SpecCP), whereas in Balinese/Malagasy OV/PV, the pivot occupies both the subject and the topic position (SpecCP+TP) whilst the external argument remains in SpecVoiceP. The respective structures are presented in (13).

⁵It would be highly interesting to see whether in Dinka OV it is the pivot or the agent that exhibits canonical subjecthood properties like being deleted under control, being targeted by imperatives, etc. (see Dixon, 1994). Under the syntax suggested, we would expect that the agent obtains subjecthood status, as it sits in SpecTP; though it would be interesting to see what determines subjecthood: being the highest A-element or occupying SpecTP. Nothing related is mentioned in van Urk, 2015.

(13) a. *Dinka* OV subjectsb. *Balinese/Malagasy* OV/PV subjects

Genitive agents/subjects Note that van Urk, 2015 mentions that Dinka T projects a specifier which hosts the subject in non-SV constructions but lacks the ability to case-license it therein. According to him, this is reflected in genitive case on the non-pivot agent: in OV and OBLV (but not in SV) the subject (external argument) is genitive marked, shown in (14).

(14) *Dinka* genitive subject

(van Urk, 2015: 61)

- a. *Àyén à-càm cuṭin nẹ pāl*
 Ayen 3S-eat.SV food P knife
 'Ayen is eating food with a knife.'
- b. *Cuṭin à-céem Àyèn nẹ pāl*
 food 3S-eat.OV Ayen.GEN P knife
 'Food, Ayen is eating with a knife.'
- c. *Pāl à-céemè Àyèn cuṭin*
 knife 3S-eat.OBLV Ayen.GEN food
 'With a knife, Ayen is eating food.'

On the surface, this is similar to Malagasy, where a non-pivot agent (in TV or CV) has to be genitive marked (additional to its requirement to be strictly verb-adjacent). Example (15) depicts a TV construction in which the theme (*tree*) is promoted to pivot whilst the agent (*Sahondra*) is expressed as genitive.

- (15) *Notapahin'i Sahondra tamin'ny antsy ity hazo ity*
 PST.PV.cut.GEN.Sahondra PST.P.GEN.DET knife this tree this
 'This tree was cut with a knife by Sahondra.'

Malagasy genitive agent (Paul, 2000: 9)

The genitive subject in Dinka has also been termed a "marked nominative", located in TP, similar to what can be found in many other Nilotic languages (see also König, 2006; 2008). van Urk, 2015 suggests that genitive marking is a form of last-resort PP insertion: T is not a nominal-licensing position, thus a silent preposition is inserted on order to license the subject in SpecTP (as long as it does not become the pivot). Alternatively, Poole, 2023 suggests that Dinka SpecTP is a lexical case position which can be targeted by movement; thereby, the subject moves to SpecTP and only then is marked by lexical case, which makes it invisible for the dependent case algorithm. In either case, the genitive marking on the subject appears to be independent from pivothood. This is also evident from clauses that lack a pivot altogether but still exhibit a genitive subject. Dinka allows pivot-less clauses are yes-no questions with

V1 order, marked with SV morphology, shown in (16). Such clauses can be merged with a genitive subject, even though there is no pivot other than the subject (this is true for all sorts of verbs; unergatives, unaccusatives as well as transitives).

(16) *Dinka pivot-less clauses with GEN subject* (van Urk, 2015: 72)

- a. *Bé lẹc dhuòŋ?*
 FUT.SV **stick**.GEN break.NF
 ‘Will the stick break?’
- b. *Bé Ból càŋ (è cuŋin)?*
 FUT.SV **Bol**.GEN eat.AP.NF (P food)
 ‘Will Bol eat food?’

The fact that the subject is GEN marked even in absence of a pivot suggests that genitive is not the result of a competition for the case-position in SpecCP (between subject and pivot) but rather indicates that the element which ends up in SpecTP receives genitive marking.⁶ Last, that the genitive subject has moved to SpecTP (and does not remain in VoiceP) is evident from the fact that it can be separated by an adverb from the non-finite/ participial verb, see (17).

(17) *Bé lẹc dâac dhuòŋ?*
 FUT.SV **stick**.GEN quickly.NF break.NF
 ‘Will the stick quickly break?’ *Dinka* (van Urk, 2015: 87)

I propose that the Dinka genitive subject differs from the Malagasy genitive agent in their structural position and licensing options. In chapter 7, I suggested that Malagasy agents are last-resort licensed (via genitive and strict verbal adjacency). This comes about as the agent competes with the pivot for the (single) licensing position in SpecCP+TP. If the pivot moves to SpecCP+TP, the agent remains in SpecVoiceP and is last-resort licensed. This is supported by the fact that in Malagasy PV, the pivot obtains subjecthood status, whilst the genitive agent loses (parts of) it. Opposed to that, in Dinka it seems that the agent keeps its subjecthood status, even under OV; the pivot resembles more like a topic than a derived subject. Another distinction between Malagasy and Dinka non-pivot agents is verbal adjacency: the Malagasy genitive agent has to be strictly verb-adjacent which I take to indicate that it is last-resort licensed in a post-syntactic process (Branan, 2022; Levin, 2015; van Urk, 2020). In Dinka, things are similar but not the same: linearly, the genitive subject follows the finite verb (see all examples so far). This is expected if the finite verb sits in C and the subject moved to SpecTP (similar to what is in general proposed for the middle field in V2 languages). From this alone, it looks as if the Dinka genitive subjects might also be right adjacent to the finite verb, just as it is the case with Malagasy agents. Example (18), however, indicates that this is not the case: in a yes-no question, the Dinka genitive subject can either occur to the left or to the right of the finite verb (the auxiliary).

(18) *Cè lẹc bé dhuòŋ?*
 NEG **stick**.GEN FUT.SV break.NF
 Will the stick not break?’ *Dinka* (van Urk, 2015: 87)

Example (18) shows that there cannot be a strict verbal adjacency requirement on the subject, as such requirements are usually correlated with one particular side of

⁶Another option would be that the genitive subject is, in fact, an ergative. This can also not be the case, as genitive marking also surfaces on intransitive subjects, as is the case in the example above, (16), which would be highly unexpected if it was an ergative.

the verb and derived via direct contiguity of two heads (Levin, 2015). The fact that the genitive subject can appear on either side of the verb shows that, most likely, it is another kind of animal than the Malagasy genitive agent.

To conclude, I follow van Urk, 2015 in the assumption that the external argument in Dinka moves to SpecTP (independently of pivothood) and receives genitive there; either via insertion of a silent preposition or via T assigning lexical case in the dependent case algorithm (Poole, 2023).⁷ Opposed to that, genitive agents in Malagasy remain in SpecVoiceP and are subject to strict verbal adjacency; a result of post-syntactic licensing in the absence of a structural licensing head.

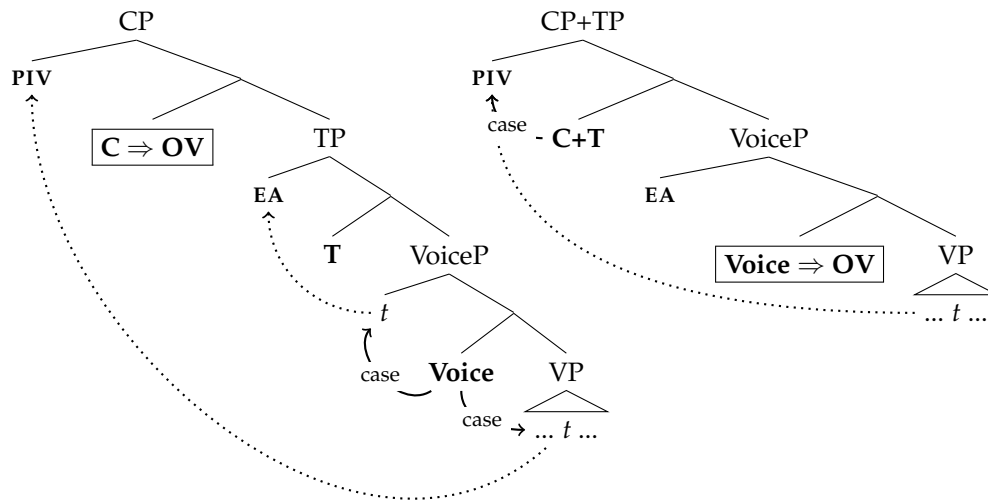
Locus of voice morphology: In Dinka, voice morphology is a form of extraction marking on C: it tracks which argument has been moved to SpecCP (van Urk, 2015). In Balinese and Malagasy, on the other hand, I follow accounts that tie voice morphology roots to different Voice heads: OV/PV Voice is a non-canonical passive head which is thematically transitive but cannot license its internal argument, whilst AV Voice is a regular active head (Aldridge, 2008; Legate, 2012; 2014; Erlewine and Sommerlot, 2023; etc.).⁸ Thereby, the Dinka construction resembles something closer to English *do*-support, whilst the Balinese and Malagasy structures are more like (but not the same as) the English active-passive alternation.

Licensing of arguments: Related to the different loci of voice morphology is the nominal licensing ability of the Voice head. According to van Urk, 2015, in Dinka, the licensing options of the Voice head are always the same. Both in SV and OV, Voice is fully active and can license its internal argument (according to van Urk, 2015, this licensing happens in SpecVoiceP). Thus, an object that moves to the pivot position in SpecCP has already been licensed in VoiceP. The situation in SV is a bit more complex; it is not straightforwardly clear whether the subject is licensed in SpecTP and then A-moves to SpecCP or is only licensed in SpecCP (for now, this is to some degree irrelevant, since we are focusing on OV). Hence, the licensing options of the Voice head does not change with different voice morphology. Note that the pivot in SpecCP still receives unmarked morphological case; under my account, this accounted for by the fact that it sits in an A-position and thereby partakes in the dependent case algorithm, not with its location of abstract licensing. In Balinese and Malagasy, I proposed that voice morphology is determined in the voice domain, and is correlated with different licensing options on Voice: an OV/PV Voice head is distinct from an AV Voice head. AV Voice is a regular active head which is able to license its internal argument (when transitive). OV/PV Voice is a non-canonical passive head: it thematically introduces two arguments but cannot license either one of them; SpecCP+TP is the only locus of nominal licensing and the internal argument and the agent compete for it. Hence, the Voice heads in OV/PV in Dinka and Balinese/Malagasy distinguish from each other in their licensing options. This is depicted in (19), which also shows the locus of voice morphology (on C in Dinka, on Voice in Balinese and Malagasy).

⁷I am uncertain what exactly drives subject movement to SpecTP in Dinka; potentially a bare [EPP], or a bare [ϕ] probe, independent from the one on C.

⁸Note that the Dinka system might be closer to what has been suggested for Philippine-type languages like Tagalog in Chen, 2017.

- (19) a. *Dinka licensing in OV and locus of voice morphology* b. *Balinese/Malagasy licensing in OV/PV and locus of voice morphology*



Distribution and origin of $[A'/A]$ probes: In Dinka, both C and Voice carry an $[A'/A]$ probe, in all voices. In my analysis of Balinese and Malagasy, C+T always carries an $[A'/A]$ probe whilst Voice only does when merged as OV/PV. I propose that this has to do with the origin of the composite probe. In Dinka $[A'/\phi]$ seems to be parametrically present on all phase-heads (or, at least this is what van Urk, 2015 assumes). Thus, $[A'/A]$ is most likely the result of a general process applying to all phase heads, like ϕ -feature under-inheritance (or copy inheritance, see Ouali, 2008). Thereby, every phase head hosts a $[\phi]$ -probe (additional to its $[A']$). In Balinese and Malagasy, I proposed that the $[A'/A]$ probe on C+T is a side-effect of a topic-to-subject grammaticalization process via which TopP and TP fuse into one projection. This renders a fused head Top+T, carrying an $[A'/A]$ probe. In OV (but not in AV), this triggers Voice to become a non-canonical passive head, since topic-to-subject grammaticalization usually goes hand-in-hand with passive formation (Polinsky, 2016; Van Gelderen, 2022). Thereby, OV Voice both topicalizes its internal argument (via $[A']$) and at the same time promotes it to subject (via $[A]$). This process is only necessary on OV/PV Voice, but not on AV Voice. Thus, the slightly different distribution of Dinka and Balinese/Malagasy $[A'/A]$ probes roots in their distinct origins: whilst in Dinka composite probes emerge via parametrical ϕ -under-inheritance (which targets all phasal heads), Balinese and Malagasy composite probes root in phrasal fusion (TopP+TP) and trigger $[A'/A]$ on Voice only in particular constructions (OV/PV).

8.2.3 The Dinka A'/A signature

Dinka carries an $[A'/A]$ probe on both Voice and C. In my terminology, both induce an A-movement chain. This renders the empirical A'/A signature in table 8.2.

case	WCO	anaph. bind.	PG	feeds A-mvt	re- con- str.	info- struct. effects	DP/ φ- goal	feeds φ- agree	Mini- mality	long dist.
✓	×	✓	n/a	✓	×	✓	✓	✓	A'/A	✓
$\underbrace{\hspace{10em}}$ <i>movement = A</i>						$\underbrace{\hspace{10em}}$ <i>probe = [A'/A]</i>				<i>[A'/A]</i> <i>on</i> <i>Voice</i> <i>+ C</i>

TABLE 8.2: The A'/A signature of Dinka

Movement chain: A-movement

The movement chain involved in Dinka promotion to pivot/topicalization is A-movement, which is indicated by the following properties: i) it feeds morphological case assignment, ii) it obviates weak crossover and creates new antecedents for anaphor binding, iii) it feeds subsequent A-movement and iv) it does not have to reconstruct into its base-position. For parasitic gap licensing, there is no data in van Urk, 2015; we would expect it not to be licensed under pivot promotion.

Promotion to pivot/ topic feeds case: In Dinka, case-marking is expressed by tone. The element promoted to pivot/topic receives unmarked case, irrespective of whether it is the external or internal argument (or an oblique). Since the pivot/topic lands in an A-position (the highest one), it partakes in the dependent case algorithm and is assigned unmarked case (indicated as ABS; note that this is not an inference about Dinka alignment but solely a glossing choice of van Urk, 2015). In (20a), the subject is promoted to pivot and receives unmarked case. In (20b), the internal argument *food* is promoted to pivot and receives unmarked case, whilst the external argument (*Ayen*) is genitive marked.⁹

(20) *Dinka unmarked case* (van Urk, 2015: 105; glosses adapted for clarity)

- a. *Àyén* *à-cé* *cuḡin câam* *nẹ pǎal*
Ayen.ABS 3S-PRF.AV food eat.NF P knife
 'Ayen has eaten food with a knife.'
- b. *Cuḡin* *à-cḡi* *Áyèn* *t câam* *nẹ pǎal*
food.ABS 3S-PRF.OV Ayen.GEN t eat.NF P knife
 'Food, Ayen has eaten with a knife.'

Promotion to pivot/topic obviates weak crossover: Promotion to pivot/topic obviates weak crossover. This is expected if the movement chain is of type A and thereby abstracts over individuals. In OV, a quantifier pivot/topic can bind an agent variable from its landing site in SpecCP. This is evident from example (21a) where *every boy* originates below the agent *his goat* but after it has been moved to SpecCP, allows for co-indexation. In the parallel SV construction, where the quantifier theme remains low, co-indexation is ungrammatical, shown in (21b).

(21) *Dinka obviates WCO* (van Urk, 2015: 110)

⁹The genitive is either a form of marked nominative in TP (König, 2006; 2008), a form of late-inserted lexical case (Poole, 2023) or the effect of a silent PP licensing the agent (van Urk, 2015), see the preceding section.

- a. *Dhùk ébɛn_i à-íí thɔ̌-dè_i t kâac*
boy every 3S-PRF.OV goat.CS-SG.3SG **t bite.NF**
 ‘Every boy_i, his_i goat bit.’
- b. *Thɔ̌-dè_{*i/j} à-cé dhùk ébɛn_i kâac*
goat.CS-SG.3SG 3S-PRF.SV **boy every** bite.NF
 ‘His_{*i/j} goat has bitten every boy_i.’

New antecedents for anaphor binding: Promotion to pivot/topic creates new antecedents for anaphor binding: a theme pivot/topic can bind an agent reflexive (more precisely, a reflexive embedded in the agent DP), shown in (22). This indicates that movement of the object *Bol* is A-movement, allowing to bind variables from its landing-site.

- (22) *Bòl_i à-íí [àkékôol-tí è rɔ̌t-dè_i] t piɔ̌lɪc*
Bol 3S-PRF.OV [story-that P self-SG.3SG] **t criticize.NF**
 ‘Bol, that story about himself has criticized.’
Dinka new antecedents for anaphor binding (van Urk, 2015: 111)

Promotion to pivot/topic feeds further A-movement: Promotion to pivot can occur long-distance without losing its A-properties. This is evident from (23), where a long-distance moved pivot still obviates WCO in the matrix clause. The embedded object (*every man*) has moved out of the complement clause to the matrix pivot position and from there can bind a matrix agent variable (*his wife*). Thereby, the matrix movement step must be A-movement. Assuming that *every man* has moved successive cyclically through all VoicePs and CPs on its way up (van Urk and Richards, 2015), this shows that initial promotion to pivot (in the embedded clause) can feed matrix promotion to pivot, whilst both chains are of type A.¹⁰

- (23) *Mòc ébɛ_i à-yíí tiéɛŋ-dè_i luêel [è t thɛ̌t]*
man every 3S-HAB.OV woman-SG.3SG say.NF [C **t** cook.AV]
 ‘Every man_i, his_i wife says is cooking.’
Dinka matrix A-movement (van Urk, 2015: 110)

Lack of reconstruction for principle C: The raised pivot/topic does not need to reconstruct for condition C. The lack of reconstruction for condition C is shown in (24). In the base-line, the DP phrase *the brother of Mayen and Ayen* is merged as theme argument. It cannot be co-indexed with the agent pronoun *they* as this would violate condition C. If the R-expression containing phrase is promoted to pivot, it can salvage the condition C violation and co-indexation between *Mayen and Ayen* and *they* becomes grammatical. This is only possible under the assumption that the pivot has undergone A-movement.

- (24) [*Mánh è Máyèn kù Àyén_i*] *cíikè_i t tɪŋ*
 [brother P **Mayen and Ayen**] PRF.OV-3PL **t see.NF**
 ‘The brother of Mayen and Ayen_i, they_i have seen.’
Dinka pivot does not reconstruct for principle C (van Urk, 2015: 114)

¹⁰van Urk and Richards, 2015 suggest that the whole embedded CP is moved to SpecVoiceP and only then the embedded pivot is moved further up. I will discuss this in the end of this section.

Probing head: [A'/A]

All of the properties listed so far indicate that Dinka promotion to pivot is an A-movement chain, thus abstracting over individuals. The truly mixed properties of the derivation stem from the movement-inducing probe: [A'/• ϕ •]. This is evident from the fact that the pivot/topic needs to be information-structurally marked (or involve clause-typing effects), and the search process is A'/A-minimal (intervening bare DPs can be skipped/crossed). At the same time, the goal must be a ϕ -goal and triggers ϕ -agreement at its landing site.

Information-structural effects: The Dinka topic/pivot needs to be an element with an [A'] feature: in a "regular" declarative clause, the raised element (pivot) must be a topic. This is evident from (25), showing that as response to the question *What is new?*, an OV construction is infelicitous. The SV construction, which van Urk, 2015 describes as the default declarative, is fine. This indicates that the pivot is a topic.

(25) *Dinka; in response to the question "What is new?"* (van Urk, 2015: 95)

- a. *Àyén a-cé wòt wòc*
Ayen 3S-PRF.AV house buy.NF
 'Ayen bought a house.'
- b. # *wòt a-cíi Àyén wòc*
house 3S-PRF.OV Ayen.GEN buy.NF
 # 'A house, Ayen bought.'

The DP attracted by [A'/A] is, however, not restricted to topics, but may also be a wh-phrase or a relativized element. Both cases behave in the same way as topicalization; the movement chain exhibits A-properties, and the extracted element must be a nominal, triggers ϕ -agreement and receives unmarked case. According to van Urk, the A'-part of the composite probe is a flat [A'] (see also Abels, 2012b) which can attract any kind of [A'] goal; be it [top], [wh] or [rel]. For the sake of space, I only focus on instances of topicalization here but refer the reader to van Urk's thesis for an in-depth investigation of wh-extraction and relativization.

The goal must be a ϕ -element: In Dinka, only nominals and whole CPs can be promoted to topic/pivot; arguments without (accessible) [ϕ] features (e.g. PPs, adverbs), cannot. This is expected if the probe involves [ϕ] features and thereby can only find [ϕ] goals. van Urk, 2015; van Urk and Richards, 2015 (along the lines of Richards, 1998; Rackowski and Richards, 2005) suggest that, aside from nominals, whole CPs can serve as ϕ -goals and thereby be promoted to pivot. Note that the same is true in Austronesian pivot promotion, as we saw in chapter 7. Let us start with DP pivots.

Only DPs, but not PPs, can serve as topic/pivot. PPs cannot serve as goals for [A'/ ϕ] (neither on C nor Voice), as their PP layer makes the [ϕ] features of the nominal embedded inside them inaccessible. That the pivot needs to be a nominal is evident in OBLV constructions, shown in ??. Usually, an instrumental like *knife* in *Ayen ate food with a knife* is embedded under a preposition (just like in English), shown in (26).

- (26) *Àyén à-é cuin câam n̄ p̄al*
Ayen 3S-PRF.SV food eat.NF n̄ knife
 'Ayen has eaten food with a knife.'
- (van Urk, 2015: 105)

When attracted by [A' / A] and moved to SpecCP, Dinka forces the PP to be reduced to a nominal, shown in (27), where *knife* loses its preposition and surfaces as DP.

- (27) *Pǎal à-bénè Àyèn cuṭin câam*
knife 3S-PRF.OBLV Ayen.GEN food eat.NF
 'With a knife, Ayen will eat food.'
 (van Urk, 2015: 105)

The same restriction holds in VoiceP: a PP (*with a knife*) cannot occupy the edge of SpecVoiceP, shown in (28); this is expected under the assumption that [A' / A] on Voice is restricted to ϕ -goals, just as [A' / A] on C is.¹¹

- (28) **Àyén à-é* [_{VoiceP} *nè pǎal cuṭin câam*]
 Ayen 3S-PRF.SV [_{VoiceP} P **knife** food eat.NF]
 Int.: Ayen has eaten food with a knife.'
Dinka no PP in SpecVoiceP (van Urk, 2015: 80)

Just like DPs, whole CP complements can be promoted to pivot in Dinka, shown in (29). Note that on the surface, the CP remains in its clause-final base-position, which van Urk and Richards, 2015 take to be an independent surface constraint. That the CP *that Ayen bought a book* has in fact moved to the clause-initial matrix pivot position is evident from i) the voice morphology on the matrix verb (OV) and ii) the fact that all clause-edges (V2 positions) remain empty. Remember that Dinka requires all SpecCPs and SpecVoicePs to be filled; either overtly or by traces. van Urk and Richards, 2015 take the empty specifier positions in (29) to be an indication of successive-cyclic movement of the whole complement CP to matrix SpecCP (through SpecVoiceP); the traces are indicated by ____.

- (29) [_{CP} ____ *à-cí* *Ból* [_{VoiceP} ____ *lél Dèŋ* [*Ayén à-cé* *kitáp* ʔòòc
 [_{CP} ____ 3SG-PRF.OV Bol.GEN [_{VoiceP} ____ tell Deng [**Ayen** 3SG-PRF.SV **book** buy
]]]
]]]
 'Bol told Deng [that Ayen bought a book].'
Dinka CP pivot (van Urk and Richards, 2015: 135)

Further, van Urk and Richards, 2015 convincingly argue that CP complements are always raised to SpecVoiceP in Dinka, irrespective of whether they end up as pivot in SpecCP or not. This means, in the presence of an embedded CP, [A' / A] on Voice always attracts the whole CP and moves it to SpecVoiceP (in order to fulfill its V2 requirement), just as it would do with a regular object DP in a simple clause. Example (30) depicts a case where the embedded CP is moved to SpecVoiceP but does not become the matrix pivot. The matrix subject (*Bol*) is the matrix pivot (visible from SV marking on the matrix verb). Simultaneously, [A' / A] on Voice has attracted the whole embedded CP to SpecVoiceP. This is evident from the fact that SpecVoiceP usually must be filled overtly; that it appears empty in (30) shows, that it is occupied by the whole complement CP (which, due to phonological rules, must be spelled out

¹¹Note that for in the derivation of OBLV, discussed above, van Urk, 2015 proposes that [A'] and [A] on Voice split up; [A'] attracts the oblique PP whilst [A] attracts an object. The DP embedded in PP then moves to SpecCP whilst the preposition is incorporated into C. The in-between step of this derivation would look exactly like (28), where both the PP and the object occupy multiple SpecVoicePs. Why is (28) ungrammatical then? According to van Urk, 2015, [A'] on Voice is an uninterpretable feature which cannot host terminal movement. Thus, it can "hand-on" movement of PP but not serve as a final landing-site thereof. Thus, even under an independent probing analysis of [A' / A] on Voice, (28) would still be ungrammatical.

clause-final). The construction parallels all other instances of SV that we have seen so far, with the exception that it is not a DP but a CP that occupies SpecVoiceP.

- (30) *Bôl cê* [VoiceP__ *lél Dèŋ* [*Ayén à-cê* *kitáp* ʔòɔc]]
Bol 3SG-PRF.SV [VoiceP__ tell Deng [Ayen 3SG-PRF.SV book buy]]
 'Bol told Deng [that Ayen bought a book].'
Dinka CP in matrix SpecVoiceP (van Urk and Richards, 2015: 135)

If we assume that CP clauses carry ϕ -features, just like DPs do (Rackowski and Richards, 2005; Halpert, 2012, et al.), it is expected that they can serve as goals for [A'/A], just like DPs can.

Promotion to pivot/topic triggers ϕ -agreement: The element moved to SpecCP triggers ϕ -agreement on the finite verb. This is shown in (31a), where the object pivot *you* triggers 2nd person agreement on the auxiliary. In (31b), on the other hand, the object pivot *giraffe* triggers 3rd person agreement.

- (31) *Dinka ϕ -agreement with pivot/topic* (van Urk, 2015: 103)
- a. *Yîin ɔ-cîi môc tîiŋ*
you 2-PRF.OV man.GEN see.NF
 'You, the man has seen.'
- b. *Miir à-càa tîiŋ*
giraffe 3S-PRF.1SG see.NF
 'A giraffe, I have seen.'

A'/A minimality: Last, if triggered by a composite probe, we expect promotion to pivot/topic to be A'/A-minimal and thereby not sensitive to intervening DPs. In Dinka, this property is a bit trickier to observe than we might think. Let us first look at the [A'/A] probe on C in mono-transitive OV constructions, depicted in (32). There, we assume that in a first step, an A'/A object is attracted to SpecVoiceP (by [A'/A] on Voice). Then, the TP is built and the bare [ϕ] agent (*Ayen*) is moved to SpecTP. Then, C is merged and its [A'/A] probe starts looking for a goal: in its search space are either the subject in SpecTP (which only carries [A] but not [A'] features) and the object in SpecVoiceP (which depicts a fully fitting A'/A goal). C attracts the object across the subject and promotes it to pivot. In our understanding, this depicts A'/A minimality: the [ϕ]-subject does not intervene for object movement and thereby indicates that [A'/A] on C is not sensitive to defective intervention.

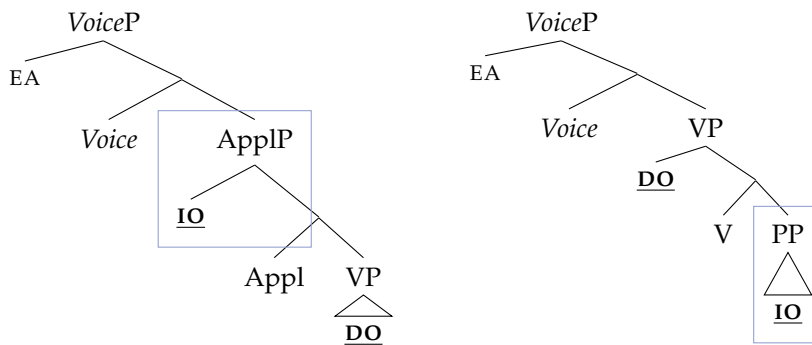
- (32) *Cuîin à-cîi Áyèn t câam nê pǎal*
food 3S-PRF.OV Ayen.GEN *t* eat.NF P knife
 'Food, Ayen has eaten with a knife.'
 (van Urk, 2015: 105)

However, van Urk, 2015 also suggests that in (32) the subject *Ayen* is embedded into a silent PP (from which it receives genitive case). In his terms, insertion of silent P is a last-resort operation; I assume that this means that it happens after promotion to pivot has taken place. Thereby, in his understanding, C skips a ϕ -goal (the subject) for the better fitting object. Only after that, the subject is embedded into a PP shell. However, if we assume that the subject is embedded under (silent) PP before C starts probing, it does not depict a ϕ -goal after all, and the object in SpecVoiceP will, in any case, be the closest available ϕ -goal for C. If we pursue this view (= that the PP is inserted before C starts probing), we would expect that the subject can never serve as a goal for C. This is not the case either: we assume that SV is built in the same way

as OV (up to TP). However, under SV, the agent carries [A'/A] and thereby serves as a goal for C. If it was embedded under PP as soon as it moved to TP, we would expect that it can never be further attracted to SpecCP. This is not the case. Finally, insertion of a silent PP is only one way to explain the genitive marker on the subject; there are also other accounts that derive the subject case marking differently (e.g. Poole, 2023 by suggesting movement to a lexical case position). Thus, I take the fact that [A'/A] can skip the subject (even though genitive marked) to indicate that the [A'/A] probe can skip a ϕ -goal.

Alternatively, we can look at ditransitives and long-distance extraction in order to find A'/A minimality. Thankfully, Dinka does not only carry a composite probe on C, but also one on Voice, so we can try to see whether [A'/A] on Voice provides us with better evidence. In ditransitives, we would expect that either object can be promoted to pivot/topic. If Voice carries [A'/A], it should be able to attract either one of the objects. Unfortunately, Dinka seemingly allows for two base-orders of direct and indirect objects in ditransitives. As van Urk, 2015 points out, the indirect object can either be base-generated in ApplP or below VP (inside a complement PP; again the preposition is silent). The two possible structures are depicted in (33).

- (33) a. Indirect object in ApplP b. Indirect object in PP



According to van Urk, the two structures alternate freely, and the ordering of objects seems to depend on what element fulfills Voice's V2 requirement: if the indirect object is moved to SpecVoiceP, it was base-generated in ApplP whilst, if the direct object moves to SpecVoiceP, the indirect object was base-generated in a lower PP.¹² For SV constructions, this is expected: as we saw earlier, in SV, only the agent carries an [A'] feature. Thereby, the two objects of a ditransitive are both bare ϕ -goals. Since it does not find a fitting goal, [A'/A] on Voice splits up and attracts the closer DP; since two base-orders are possible, this can be either of the two DPs, see (34).

- (34) Dinka ditransitives: free ordering of objects (van Urk, 2015: 148)

- a. *Ỵĩn c̣é* [_{VoiceP} *Àyén g̣àam cáa*]
 you PRF.SV [_{VoiceP} *Ayen give.NF milk*]
 'You have given Ayen milk.' corresponds to structure (33)a
- b. *Ỵĩn c̣é* [_{VoiceP} *cáa g̣àam Àyén*]
 you PRF.SV [_{VoiceP} *milk give.NF Ayen*]
 'You have given Ayen milk.' corresponds to structure (33)b

Unfortunately, if ditransitives are flexible in the base-ordering of their objects, we cannot really use them to make an argument for A'/A minimality. Luckily, there

¹²He supports these claims with reconstruction for variable binding; a theme in SpecVoiceP cannot reconstruct below the applicative; see van Urk, 2015: 151.

seems to be one example for which this is not the case. The verb *warn* selects for two DP objects but does not allow for free ordering between them: the indirect object cannot appear below the theme; the VoiceP internal order must be ApplP » VP. According to van Urk, 2015, this is visible from the fact that in an SV structure with *warn*, only the indirect object (*Deng*) can appear in SpecVoiceP, (35a), not the direct object *sun*, (35b). This indicates that *Deng* is always base-generated above *sun* and there is no alternative order in which the applicative appears in a PP below the theme.

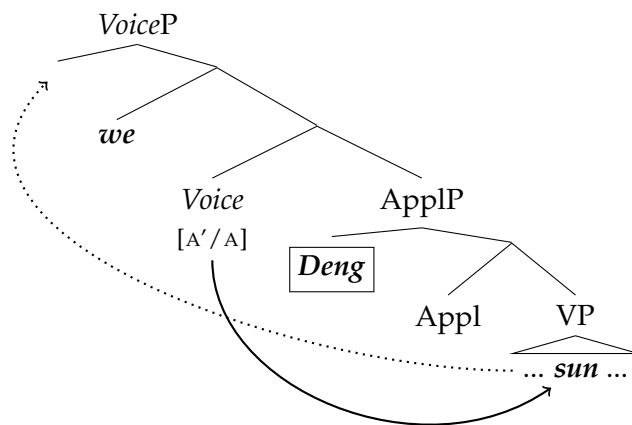
(35) *Dinka ApplP » VP ditransitive (corresp. to struct. (33)a)* (van Urk, 2015: 163)

- a. *Bòl à-cé* [VoiceP *Dèŋ jâany ákól*]
 Bol 3S-PRF.SV [VoiceP *Deng warn.NF sun*]
 'Bol has warned Deng about the sun.'
- b. **Bòl à-cé* [VoiceP *ákól jâany Dèŋ*]
 Bol 3S-PRF.SV [VoiceP *sun warn.NF Deng*]
 Int.: 'Bol has warned Deng about the sun.'

We can now ask whether the theme *sun* can be promoted to pivot; thereby, it would have to cross the applicative *Deng*, which would be an argument for A'/A minimality. If *sun* is merged with [A'] and [A] features, then [A'/A] on Voice has two goals in its search space: a closer [A] goal in ApplP (*Deng*) and a further away A'/A goal in VP (*sun*). [A'/A] is A'/A-minimal, thereby we expect that it is able to attract the theme *sun* (across *Deng*) and move it to SpecVoiceP, from where it becomes accessible to [A'/A] on C. The prediction is borne out and the outcome grammatical, shown in (36). Thus, [A'/A] on Voice is can skip an intervening DP (*Deng*). The respective structure is shown in (37).

- (36) *Ákól à-cùukù* [VoiceP *t jâany Dèŋ t*]
sun 3S-PRF.OV.1PL [VoiceP *t warn.NF Deng t*]
 'The sun, we have warned Deng about.'
- Dinka A'/A minimality in ditransitives* (van Urk, 2015: 163)

(37) *A'/A minimality in ditransitives*



Last, we can look at long-distance extraction to find A'/A minimality effects. As movement proceeds successive-cyclically through all phase edges (induced by [A'/A] probes on each of them), we can look at each phase head's search space and see whether there is a nominal that is intervening with the A'/A goal. One example is (38) where an embedded CP is promoted to matrix pivot. The embedded CP

(38) — *à-çfi* *Bôl* [_{VoiceP} — *lîyuk* *Dèŋ* [_{CP} *è bɛ* *Áyèn*
— 3S-PRF.OV Bol.GEN [_{VoiceP} — persuade.NF Deng [_{CP} C FUT.SV **Ayen**.GEN
jàal]]
leave.NF]]
'Bol has persuaded Deng that Ayen will leave.'

(39) *Mòc ếb_ế_i à-y_ĩi* *tiếerj-dề_i* *luêeel* [ề *t* *thế_t*]
man every 3S-HAB.OV **woman-SG.3SG** say.NF [C *t* cook.SV]
 ‘Every man_i, his_i wife says is cooking.’
Dinka long-distance WCO (van Urk, 2015: 110)

Dinka long-distance WCO (van Urk, 2015: 110)

- (40) *Bòl*_i à-cíi [*thùrá* è *ròt-dè*_i] nyôoth [*CP* *kè cùukù* *t* *t*_{in}]
Bol_i 3S-PRF.OV [picture _P self-SG.3SG] show.NF [*CP* *C* PRF.1PL *t* see.NF]
 ‘Bol, a picture of himself has shown that we have seen.’
Dinka long-distance antecedent for anaphor (van Urk, 2015: 111)

Dinka long-distance antecedent for anaphor (van Urk, 2015: 111)

- (41) [*Mánh* è *Máyèn kù* *Àyén_i*] à-yùukuù tàak [CP cíikè_i *t*
[brother P **Mayen and Ayen**] 3S-HAB.1PL think.NF [CP PRF.OV-3PL *t*
tʃiŋ]
see.NF]
'The brother of Mayen and Ayen_i, we think they_i have seen.'

Dinka long-distance principle C (van Urk, 2015: 114)

Note that van Urk and Richards, 2015 present a slightly different analysis of Dinka long-distance A-movement, based on phase-unlocking. They state that first,

matrix Voice agrees with the whole embedded CP and moves it to SpecVoiceP (according to them, CP depicts a closer ϕ -goal for Voice than its pivot in SpecCP¹³). Only then, the pivot is sub-extracted out of the moved CP; it first moves to an additional matrix SpecVoiceP and then further to matrix SpecCP, where it becomes the matrix pivot. Sub-extraction is only possible if Voice has first agreed with the whole CP and thereby "unlocked" it for A-movement out of it. Phase-unlocking is based on Richards, 1998 and Rackowski and Richards, 2005: an agreed-with goal (CP) becomes invisible for further agreement operations into it and thereby allows A-movement out of it. Thus, after Voice has agreed with CP, it keeps searching and finds the embedded pivot (in the embedded SpecCP) and also moves it to SpecVoiceP.¹⁴ A phase-unlocking analysis roots in the following two observations: first, van Urk, 2015 points out that in embedded clauses, the pivot follows the complementizer and thereby is potentially not at the highest CP edge but in a lower CP projection. Thus, it cannot directly A-move to the matrix clause. Long-distance A-movement requires an additional mechanism that "unlocks" CP. Second, in Dinka (like in Austronesian languages), the whole embedded CP needs to become the pivot of the matrix clause in order to extract an adjunct out of it. This has been taken as a general argument that whenever something is extracted out of CP, CP itself must first serve as the goal for matrix Voice (thereby be unlocked), and only then can elements move out of it.

In principle, a phase-unlocking account is not incompatible with my analysis (however renders the third criterion of the A'/A signature (the location of the probe) somewhat vacuous); what would have to be modified is that the presence of [A'/A] on C does not per se allow long-distance extraction but that long-distance A-movement is an independently motivated operation (= a language's allowance for phase-unlocking). Alternatively, we could ascribe the ability to long-distance A-extract purely to Voice (similar to Rackowski and Richards, 2005), stating that as soon as Voice carries a form of movement-inducing [A] feature, it can unlock the CP it embeds and allow for long-distance A-extraction. This would explain the behavior in Dinka (and possibly Austronesian), but makes the wrong predictions for Mandarin Chinese ([A'/A] on Voice but no long-distance A-movement) and Hyperraising (no evidence for [A'/A] on Voice but long-distance A-movement). I leave open for future research how a composite probe approach and phase-unlocking might be intertwined.

8.3 Mandarin Chinese BEI passives and low topics/foci

Mandarin Chinese exhibits two constructions that can be summarized under an A'/A analysis: BEI-passives, (42), TP-internal ("low") topics, (43a), and TP-internal ("low") foci, (43b).

- (42) *Lisi bei (wo) male t*
 Lisi BEI (1SG) scold-PRF *t*
 'Lisi was scolded (by me).' *Mandarin Chinese BEI passive* (Chen, 2023: 36)
- (43) *Mandarin Chinese low topics/foci* (Chen, 2023: 101)

¹³According to van Urk, 2015, as well as to Norvin Richards, p.c., the pivot possibly does not occupy the highest CP edge but some lower CP projection, thereby is not directly at the phasal escape hatch.

¹⁴It is unclear to me why in this case, [A'/A] on Voice keeps probing even though it already found a goal (CP) and even though this goal could become the pivot itself. Probably the idea is that in these cases, CP only satisfies the [A] probe of Voice and then [A'/A] starts another round of searching within the CP for a fitting goal (the embedded pivot) and attracts that too.

- a. *Lisi zhe-ben shu kan-wan-le t*
 Lisi **this-CL book** read-be.finished-PRF *t*
 'Lisi, this book, finished reading (it).'
- b. *Zhangsan lian Lisi dou ma-guo t*
 Zhangsan **even Lisi DUO** scold-EXP *t*
 'Zhangsan, even Lisi, once scolded (him).'

Chen, 2023 presents an A'/A analysis for both of them, depicted in the following two sections. Both constructions exhibit an A'/A signature that can be subsumed under the theory proposed in this thesis: the movement chain is A but is induced by an [A'/A] probe; this probe is located below C, thus long-distance movement can only leave reduced clauses, and not full CPs.

8.3.1 A'/A analysis

BEI passives

The Mandarin Chinese BEI passive is a construction in which an internal argument is raised to clause-initial position, and, accompanied by the morpheme *bei*, becomes the derived subject. An example is repeated in (44).

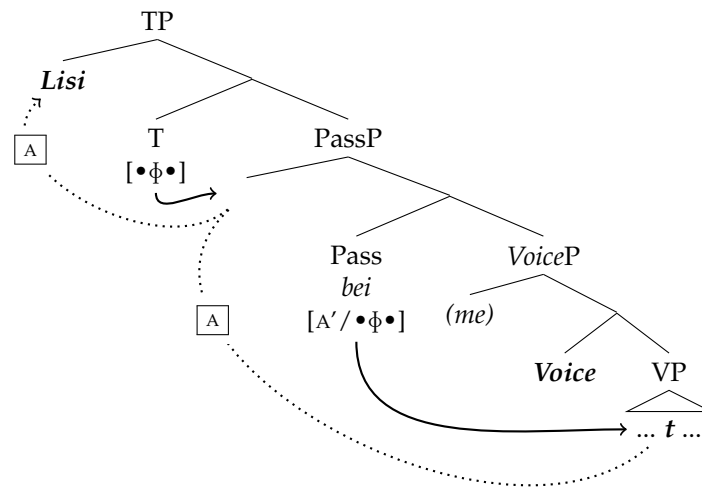
- (44) *Lisi bei (wo) male t*
 Lisi BEI (1SG) scold-PRF *t*
 'Lisi was scolded (by me).' *Mandarin Chinese BEI passive* (Chen, 2023: 36)

The standard analysis of BEI passives states that the BEI subject is base-generated high and co-indexed with a form of operator movement (similar to the standard analysis for *tough*-movement); see *a.o.* Ting, 1995; Huang, 1999; Tang, 2001; Huang, Li, and Li, 2009; Feng, 2012; Bruening and Tran, 2015. Chen, 2023, instead, provides convincing arguments for a movement analysis, based on island-sensitivity, and the passive-like nature of the construction.¹⁵ Under her analysis, the BEI construction is a non-canonical passive; what is non-canonical about it is that the agent (1SG in (44)) can be expressed overtly (without having been demoted) and that the moved element can proceed out of multiple embedded TP complements (data is shown later in this section). In her account, the BEI subject is attracted by an [A'/ ϕ] probe on Pass (under my analysis, it is [A'/ $\bullet\phi\bullet$]); PassP being an extended phasal projection on top of VoiceP, hosting the derived subject in passive constructions (along the lines of Bruening, 2013); the morpheme *bei* expresses the Pass head.¹⁶ After having moved to SpecPassP, the goal undergoes a terminal A-movement step to SpecTP, where it becomes the canonical subject of the clause. The respective structure is shown in (45). Note that in structure (45), I combined my analysis with Chen's, that is I indicated which probe triggers the movement chain. Chen speaks of "mixed A'/A movement" to PassP, in my version, it is A-movement.

¹⁵For the sake of space I do not recap her arguments here but refer the interested reader to her thesis.

¹⁶Note that nothing much hinges on the presence of PassP instead of stating that Voice can come either as passive or active head; I stick to Chen's analysis here for clarity.

(45) Derivation of Mandarin BEI passive



The PassP projection extends the VoiceP phase: when VoiceP is embedded under PassP, Pass is the phasal head, and not Voice (Collins, 2005; Bruening, 2013). Further, in canonical passives (like English), PassP suppresses Voice to introduce an overt agent. Mandarin differs from English in that respect: when embedded under PassP, Voice does not need to introduce an overt object, but may do so. Chen, 2023 suggests that the composite probe on Pass consists of a flat [A'] probe and a [φ] probe;¹⁷ PassP differs from canonical passives (e.g. English *by*-passive) solely via the presence of the composite probe (instead of a bare [A] probe). Among other things, this allows for BEI passives to be non-A-minimal: the subject of a BEI passive can correspond to a deeply embedded gap, and cross multiple intervening DPs on its movement path (data is presented in the A'/A signature section, 8.3.2). Chen, 2023 points out that an alternative implementation of the construction could be one where there is no PassP and Voice hosts the [A'/A] probe whilst simultaneously remaining able to introduce an agent (similar to what I proposed for Balinese and Malagasy). For the sake of simplicity, I stick with her PassP analysis here.

In terms of the A'/A signature proposed in this thesis, Mandarin BEI passives involve an [A' / •A•] probe, i.e. triggering A-movement. That the induced movement chain is A is reflected in the obviation of weak crossover effects, the ability to create a new antecedent for anaphor binding, the lack of reconstruction for principle C and the ability to feed subsequent A-movement. The presence of an [A'/A] probe (instead of a pure [A] probe) is visible from A'/A minimality effects, and that the goal must be both a φ-goal and as well as carry [A'] features (according to Huang, Li, and Li, 2009; Chen, 2023, these are [rel]). Last, a composite probe is only available on Pass (or Voice), not on C, thus the induced movement cannot cross a CP boundary.

Low topics/foci

Mandarin Chinese exhibits another mixed A'/A construction: TP-internal ("low") topicalization and focalization (from here on low T/F). Low focalization are structures in which a DP is moved to the position below the subject; it is introduced by the focus marker *lian* (*even*) and followed by *dou* (a predicate quantifier, according to

¹⁷Note that Mandarin Chinese does not exhibit overt φ-agreement, thus the [φ] probe has to be understood as abstract probe selecting for φ-goals but having no overt morphological repercussions; similar to what van Urk, 2015 suggests for Voice in Dinka and chapter 7 for [A] probes in Austronesian.

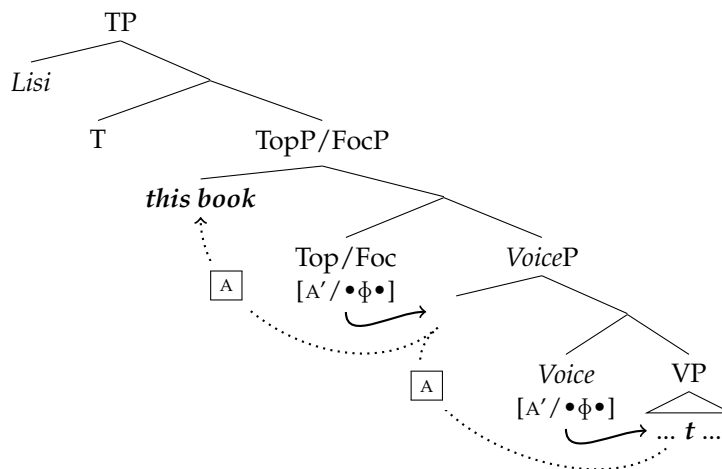
Shyu, 1995), depicted in (46a). Low topicalization are structures in which an aboutness topic is moved to a position right below the subject, shown in (46b).

(46) *Mandarin low topics and foci* (Chen, 2023: 101)

- a. Zhangsan **lian** Lisi dou bu xihuan *t*
 Zhangsan **even** Lisi **DOU** not like *t*
 'Even Lisi, Zhangsan does not like (him).' *Low focus*
- b. Lisi **zhe-ben shu** kan-wan-le *t*
 Lisi **this-CL book** read-be.finished-PRF *t*
 'Lisi, this book, finished reading (it).' *Low topic*

Chen, 2023 analyses these constructions via an $[A'/A]$ probe on Voice and an $[A'/A]$ probe on low FocP/TopP (located in the low TP domain). Note that Chen, 2023 assumes that all Voice heads in Mandarin carry an $[A'/A]$ probe (although when VoiceP is embedded under a PassP (as seen above), the $[A'/A]$ probe transfers up to Pass). What happens in low T/F constructions is the following: $[A'/A]$ on Voice attracts a goal in its c-command domain and moves it to SpecVoiceP. From there, it is accessible to $[A'/A]$ on Foc/Top and moved to SpecTopP/FocP. The respective structure is depicted in (47). Note that the structure is simplified for readability; we have to assume that the external argument (*Lisi*) is base-generated in SpecVoiceP and independently moves to SpecTP.¹⁸

(47) *Derivation of Mandarin low topicalization/focalization*



The reason for TopP/FocP being merged above VoiceP (instead of being VoiceP itself) is that low topics/foci can linearly precede Tense, Aspect and Mood categories; thus they must land somewhere within the TP domain, above VoiceP (*a.o.* Qu, 1994; Shyu, 1995; Ting, 1995; Paul et al., 2002; Kuo, 2009).

¹⁸It is not entirely clear to me how Chen's analysis derives this movement step; T only hosts a bare $[A]$ probe and is merged after TopP/FocP. Thus, it sees the A'/A goal that has been moved to SpecTopP/FocP and the lower external argument in SpecVoiceP. Given that it only carries a bare $[A]$ probe, it is A-minimal, and should thereby only be able to attract the the element in SpecTopP/FocP and not the lower agent in SpecVoiceP. Potentially, since low topic/focus has agreed with the $[A']$ probe in Top/Foc it cannot move further—this, however, would require a form of "freezing" for $[A']$ features but not $[A]$ features.

Long-distance movement mediated by [A'/A]

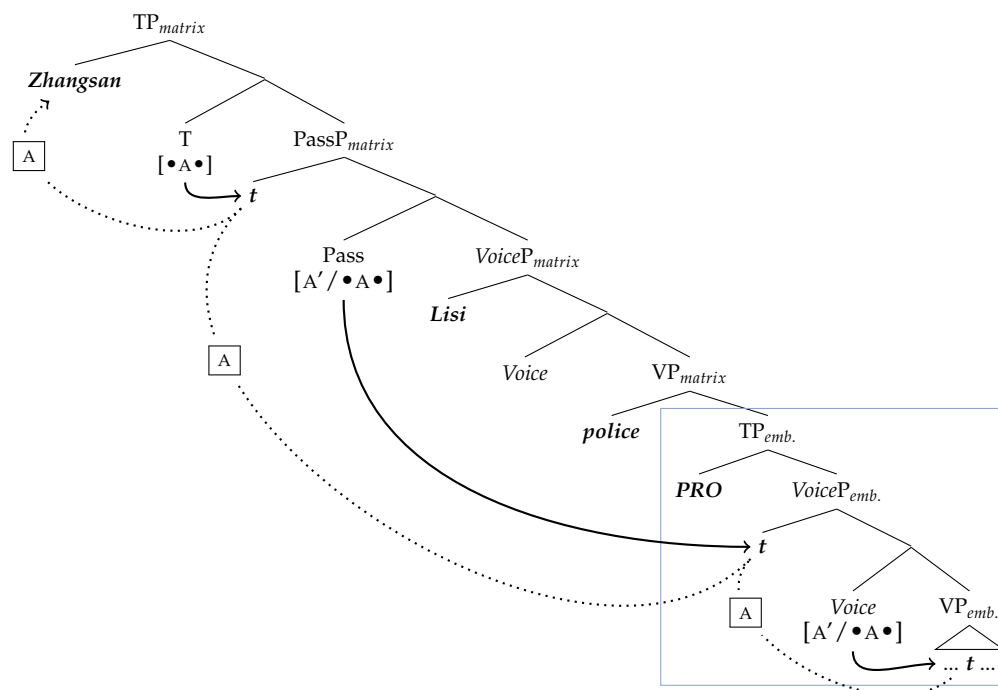
Both low T/F movement as well as BEI passivization can proceed in a long-distance fashion, out of (multiple) embedded, reduced (TP) clauses. Note that, according to Chen, 2023, all Voice heads in Mandarin Chinese can carry an [A'/A] probe; thereby, they can mediate successive-cyclic (A-)movement through multiple SpecVoicePs. As a recap, the distribution of [A'/A] probes in the Mandarin clausal spine (according to Chen, 2023) is the following: every Voice = [A'/A], Pass = [A'/A], low Foc/Top = [A'/A]. In long-distance extraction, the deepest embedded Voice is merged with [A'/A] and attracts an object to its SpecVoiceP.¹⁹ Then, TP is merged on top of it. This TP can then be embedded under another [A'/A] Voice, which attracts the A'/A goal into its own SpecVoiceP (TP is not phasal, thereby can be skipped). This step can be repeated multiple times. Last, a matrix Voice is merged, it is embedded under PassP. Pass carries an [A'/A] probe, attracts the object and moves it to SpecPassP. From there, it undergoes a terminating movement step to matrix SpecTP. The examples in (48) depict two instances of long-distance BEI-passives. The structural representation of (48a) is shown in (49).

(48) *Mandarin Chinese long-distance BEI passive* (Chen, 2023: 72)

- a. **Zhangsan** *bei* **Lisi** *bipo* *jingcha* [_{TP} *arrest* *t*]
Zhangsan BEI Lisi force police [_{TP} *arrest-PRF t*]
 Lit.: 'Zhangsan was forced *(by Lisi) the police to arrest x.'
- b. **Na-feng xin** *bei* *wo* *jiao* *Li* [_{TP} *qing* *Wang* [_{TP} *tuo* *Zhang* [_{TP} *that-CL letter* BEI 1SG order Li [_{TP} *ask* *Wang* [_{TP} *entrust* *Zhang* [_{TP} *ji-chu-le* *t*]]]
 send-out-PRF *t*]]]
 Lit.: 'That letter was ordered *(by me) Li to ask Wang to entrust Zhang to send out x.'

¹⁹It is not entirely clear to me how whether all instances of Voice always carry [A'/A]. If they do, this would mean that Voice can, in principle, always attract an object, in all constructions; I do not think that this is in general a correct prediction for the Mandarin Chinese voice domain. To my understanding, Chen, 2023 suggests that Voice can but does not need to carry an [A'/A] probe; it can also come as a regular head. When embedded under a BEI Pass head or a low TopP/FocP, it does—even though when it is not the directly embedded VoiceP but separated from the relevant PassP/TopP/FocP by a TP. This again sounds like a serious look-ahead problem to me; how should Voice know if two clauses above there is a PassP/TopP/FocP following? For the moment, I adapt Chen's analysis as it is; I am aware of the conceptual problems the long-distance analysis comes with.

(49) Structure of example (48a), embedded clause is boxed



Two clarifications about this construction are in order:

Overt agent: As soon as BEI passivization proceeds out of an embedded (object control) clause, the matrix agent can no longer be omitted; it must be overtly present (in clause-bound BEI-passives, the agent can optionally be dropped). Chen, 2023 accounts for this difference via *Burzio's generalization*: in the long-distance examples there is an overt object (in (48a), *police*); this object needs to be licensed by ACC. The matrix verb can only license ACC in the presence of an overt agent; thus the agent cannot be dropped.

No Voice restructuring: Chen, 2023 proposes that long-distance BEI-passives proceed out of embedded TP-sized complements. At first sight, the constructions in (48) could also be a form of Voice restructuring in which a bare VoiceP is embedded under a matrix verb (Wurmbrand, 2015; Wurmbrand and Shimamura, 2017), similar to the German example (50).

(50) *dass der Traktor* [_{VoiceP} *t* zu reparieren] *versucht wurde*.

C *the tractor.NOM* [_{VoiceP} *t* to repair] *try* *was*

Lit.: '...that the tractor was tried to repair.'

German Voice restructuring (Wurmbrand, 2001: 19)

Long-distance BEI passives are not instances of Voice restructuring. This is visible from the fact that the complement clause allows embedded negation and temporal adverbs (Chen, 2023:78), both of which are prohibited in Voice restructuring contexts. Additionally, whilst Voice restructuring is restricted to verbs like *try* or *begin* (event-class predicates in the sense of Wurmbrand and Lohninger, 2023), long-distance BEI passives can occur with matrix verbs like *decide*, *plan* or *manage* (situation-class predicates in the sense of Wurmbrand and Lohninger, 2023), which

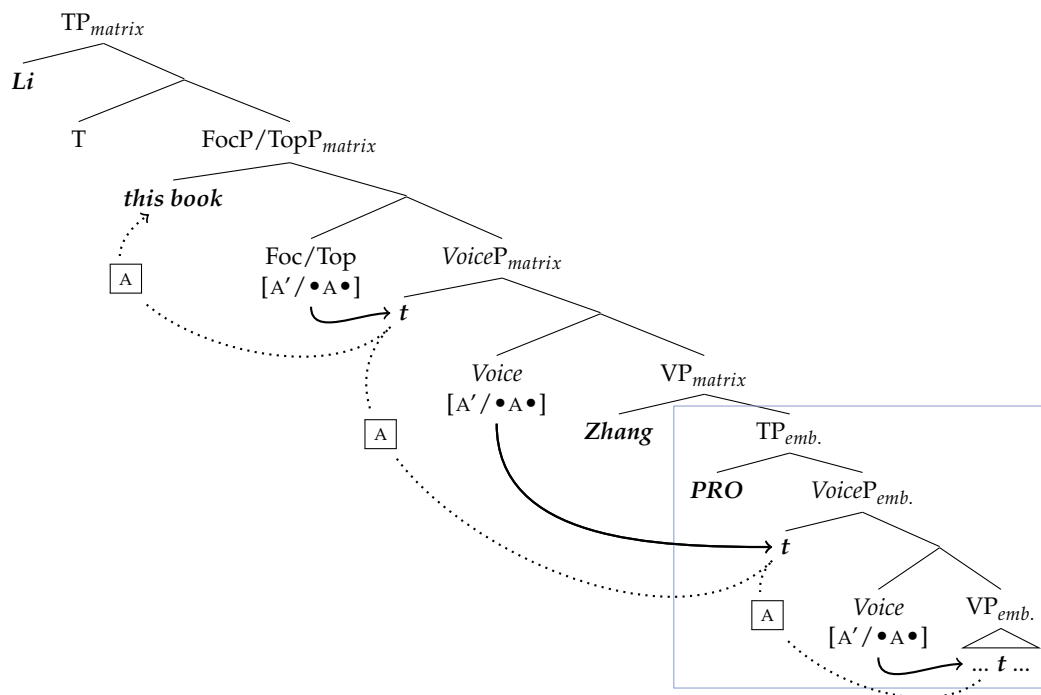
are usually assumed to select for complement clauses as large as TPs. Thus, the embedded clause in Mandarin Chinese most likely is larger than a bare VoiceP.

The same sort of long-distance movement we find in BEI passives (out of embedded TP, mediated by [A'/A] on embedded VoicePs) is possible with low T/F: example (51) depicts an instance of long-distance low topicalization, proceeding successive-cyclically through [A'/A] VoicePs. The relevant structure is presented in (52).

- (51) *Li, zhe-ben shu bi [TP Zhang kan-guo t]]*
 Li **this-CL book** force [_{TP} Zhang read-EXP *t*]]
 'Li, this book, once forced Zhang to read x.'

(Chen, 2024: 2)

- (52) *Structure of (51), embedded clause is boxed*



The long-distance examples of BEI passives and low T/Fs will be relevant below for A'/A minimality effects (when long-distance extracted, the moved DP can skip intervening DPs) and in order to diagnose the location of [A'/A] (long-distance movement can only proceed out of reduced clauses, not out of full CPs).

8.3.2 The Mandarin Chinese A'/A signature

In my classification, both Mandarin constructions (BEI passives and low T/F) involve an [A'/•A•] probe (triggering A-movement) below C, which renders the A'/A signature in table 8.3.

case	WCO	anaph. bind.	PG	feeds A-mvt	(re- constr.)	info- struct. effects	DP/ φ- goal	feeds φ- agree	Mini- mality	long dist.
n/a	×	✓	n/a	✓	×	✓	✓	n/a	A'/A	×
movement = A						probe = [A'/A]				[A'/A] below C

TABLE 8.3: Mandarin Chinese BEI passive & low topic/focus

Movement chain: A-movement

That the movement chain is of type A is visible from the obviation of WCO effects, the creation of new antecedents for anaphor binding, that it feeds subsequent A-movement and the lack of reconstruction for principle C. Chen, 2023 does not present an example for parasitic gaps; according to Liu, 2024, Mandarin Chinese does not allow parasitic gaps in general, thus this property might not be testable.

Obviation of weak crossover: Both the DP promoted to subject in a BEI passive as well as low T/Fs do not induce weak crossover. For BEI-passives, this is shown in (53), where the quantifier *every person* becomes the BEI subject; from its landing site, it can bind the variable (*his friend*), which it crossed on its movement path.

- (53) *Mei-ge ren_i dou bei ta_i-de pengyou ma-guo t*
every-CL person DOU BEI 3SG's friend scold-EXP *t*
 'Every person_i was once scolded by his_i friend.' (Chen, 2023: 63)

The same is true for low T/F: an quantifier that has been moved to a low Foc/TopP (*every student*) can bind a variable it crosses (*his friend*), shown in example (54).

- (54) *Zhangsan mei-ge xuesheng_i dou bi ta_i-de pengyou ma-guo t*
 Zhangsan **every-CL student** DOU force 3SG's friend scold-EXP *t*
 'Zhangsan, every student_i, once forced his_i friend to scold x.' (Chen, 2023: 106)

Creation of new antecedents for anaphor binding: Both the subject of a BEI passive as well as a low T/F element can bind an anaphor from their landing-site, indicating that they A-moved. Example (55) depicts this for the BEI construction, (56) shows the same with low focalization.

- (55) *Lisi_i bei Zhangsan_j jieshao-gei-le ziji_{i/j}-de pengyou t*
Lisi BEI Zhangsan introduce-to-PRF self's friend *t*
 'Lisi_i was introduced by Zhangsan_j to his_{i/j} friend.' (Chen, 2023: 44)
- (56) *Zhang (lian) zhe-ge ren_i (dou) bi ta-ziji_i-de pengyou ma-guo t*
 Zhang (even) **that person** (DOU) force 3SG-self's friend scold-EXP *t*
 'Zhang, (even) this person_i, once forced his_i friend to scold x.' (Chen, 2023: 106)

No reconstruction for principle C: Neither BEI-passives nor low T/F constructions reconstruct for principle C. This is shown in the BEI-passive construction (57), where an R-expression (*Lisi's friend*) moves from a position below a pronoun (*he*) to

a higher landing-site. Co-indexation in the base-line is ungrammatical (as it would violate condition C) but becomes grammatical after movement.²⁰

- (57) *Lisi-de_i pengyou bei ta_i ma-guo t*
 Lisi's friend BEI 3SG scold-EXP *t*
 'Lisi's friend was once scolded by him_i.' (Chen, 2023: 63)

The same is true for low T/F movement, shown in (58).

- (58) *Zhangsan (lian) Lisi-de pengyou (dou) bi ta_i ma-guo t*
 Zhangsan (even) Lisi's friend (DOU) force 3SG scold-EXP *t*
 'Zhangsan, (even) Lisi's friend, once forced him_i to scold x.' (Chen, 2023: 106)

Feeding case? Mandarin Chinese does not express overt morphological case, thus this criterion is difficult to test. What can be observed, though, is that a BEI-moved element can become the object of an ECM matrix verb. In a bi-clausal construction like (59) with an ECM matrix verb like *allow*, *forbid*, *agree*, *object* and an embedded BEI-passive, the BEI-DP (*this product*) can become the object of the ECM verb. Note that it is debatable whether ECM exists in the absence of morphological case-marking and that these constructions received controversial analyses; Chen, 2023 interprets (59) as true exceptional case marking, opposed to Li, 1990, who criticizes their ECM syntax.

- (59) *Fayuan yunxu / jinzhi / tongyi / fandui [zhe-ge chanpin bei (zhe-ge*
 court allow / forbid / agree / object [**this-CL product** BEI (this-CL
gongsi) daliang shengchan t]
 company) massively produce *t]*
 Lit. 'The court allowed/forbade/agreed/objected this product to be produced massively (by this company).'

(Chen, 2023: 75)

Feeding further A-movement: Under Chen's analysis, BEI-passives consist of an initial A-movement step to SpecPassP and a second A-movement step to SpecTP (triggered by a bare [A]). If this analysis is correct, then the movement triggered by [A'/A] feeds pure A-movement, thereby needs to be A-movement too (otherwise it would violate the BIM). Further, an element promoted as BEI subject can feed into subsequent (Hyper)raising. Mandarin Chinese, like Cantonese (Lee and Yip, 2024) exhibits (hyper)raising to subject, being A-movement out of an embedded CP to the matrix subject position (F. Chen, p.c.). (60) shows that a passivized DP (*Zhangsan*) can feed into subsequent Hyperraising; this indicates that the initial movement chain must have been A-movement.

- (60) *Zhangsan juede [t bei (Lisi) hui piping t]*
 Zhangsan feel [*t* BEI (Lisi) will criticize *t]*
 Lit. 'Zhangsan felt/heard that (he) will be criticized (by Lisi).'

(F. Chen, p.c.)

For low topics/foci it is not mentioned whether they can undergo a further step of A-movement.

²⁰Chen, 2023 does not present an ungrammatical base-line example (that is, showing that principle C in fact would be violated before movement) but indicates that Mandarin shows principle C violations in general.

All the properties listed above indicate that the movement chain we are dealing with is A-movement. That movement is induced by a composite probe is shown below.

Probing head: [A'/A]

Both BEI-passives and low T/F constructions involve an [A'/A] probe: this is shown by their information-structural effects, the restriction to nominals, and their A'/A minimality profile. As Mandarin does not show overt ϕ -agreement, this property is not testable.

Information-structural effects: Both the BEI passives and low T/F constructions involve an [A'] feature on their goal. For the low T/F construction, this is reflected in information-structural effects: low foci are accompanied by the focus marker *lian* (*even*) and followed by *dou* (a predicate quantifier, according to Shyu, 1995), shown in (61).

- (61) *Zhangsan lian Lisi dou bu xihuan t*
 Zhangsan **even** Lisi **DOU** not like *t*
 'Zhangsan, even Lisi does not like him.' (Chen, 2023: 101)

According to Kuo, 2009, low topics are aboutness topics. This is evident from their requirement to receive a definite interpretation, see (62), and supported by the fact that they cannot be focalized, shown in (63). (63a) is grammatical but becomes ungrammatical as soon as a focus marker is added, see (63b). Topics and foci stand in complementary distribution, thus the inability to be focalized supports a topic analysis.

- (62) **Wo yi-pian lunwen keyi yingfu*
 I **one-CL article** can assume
 Int.: 'One article, I can handle it.' (Kuo, 2009: 21)
- (63) *Mandarin low topics cannot be focalized* (Kuo, 2009: 19,20)
- a. *Zhangsan chezi xihuan kache*
 Zhangsan **car** like truck
 'As for cars, Zhangsan likes trucks.'
- b. **Zhangsan lian chezi dou xihuan kache*
 Zhangsan **even car** **DOU** like truck
 Int.: 'Even cars, Zhangsan likes trucks.'

For BEI passives, the situation is a bit more complex. Chen, 2023 (along the lines of Huang, Li, and Li, 2009) suggests that the [A'] feature on the goal is [rel] and thereby the A'-effects of BEI passives resemble a form of relativization.²¹ Besides that, BEI passives appear to not show any other information-structural effects (i.e. the subject does not need to be a topic, specific or definite, F. Chen, p.c.). I take the presence of [rel] to be enough justification for an [A'] probe involved in the process.

²¹F. Chen, p.c., pointed out to me that the BEI marker might have diachronically grammaticalized from a relativizer to a passive marker.

Restriction to nominals/ ϕ -goals: BEI-passives as well as low T/F are restricted to nominals/ ϕ -goals; a PP cannot serve as the subject of a BEI passive, shown in (64).²²

- (64) **Xuexiao-li bei (Lisi) t xie-le yi-feng xin*
 school-in BEI (Lisi) *t* write-PRF once-CL letter
 Int.: 'In the school was written a letter (by Lisi).' (Chen, 2023: 98)

Similarly, a PP cannot become a low topic/focus, shown in (65).

- (65) **Gerusien gei Sala meiyou song-le t zheben shu.*
 Grissom to Sara not give-ASP *t* this-CL book
 Int.: 'Grissom did not give to Sara this book.' (Kuo, 2009: 240)

Interestingly, whole complement clauses can be promoted as low foci, shown in (66), where the CP *what time to hold the meeting* is focalized. We have seen a similar things in Austronesian and Dinka promotion to pivot; in both cases, the goal could be a DP or a whole CP. Thus, it is not surprising that in Mandarin, too, CPs can serve as a ϕ -goals.

- (66) *Wo lian shenme shijian kai hui dou wang-le*
 1SG even what time hold DOU meeting forget-prf
 'I forgot what time to hold the meeting.'
 (adapt. from Paul, 2005: 121; F. Chen, p.c.)

A'/A minimality: BEI passives and low T/F are not sensitive to intervening DPs: this is evident from long-distance configurations and ditransitives. In both cases, the [A'/A] probe on Pass/Voice/Foc/Top can skip an intervening DP (or multiple of them) in search for a fully fitting goal. Example (67) shows A'/A minimality in a BEI passive, where the goal (*letter*) is moved across the intervening DPs *Wang* and *Zhang*. This indicates that the [A'/A] probe on Pass (and on the embedded Voice heads) is insensitive to bare ϕ -goals.

- (67) *Na-feng xin bei wo jiao Li qing Wang tuo Zhang ji-chu-le t*
 that-CL letter BEI 1SG order Li ask Wang entrust Zhang send-out-PRF *t*
 Lit. 'That letter was ordered Li to ask Wang to entrust Zhang to send out
 *(by me).' (Chen, 2023: 40)

Note that it is not necessarily the lowest embedded element that becomes the subject of the BEI passive: it can just as well be the matrix object that is extracted, shown with *police* in (68). This indicates that the [A'/A] probe on Pass is in fact sensitive to which goal carries the best set of [A'/A] features.

- (68) *Jingcha bei (Lisi) bipo t zhuazou-le Zhangsan*
 police BEI (Lisi) force *t* arrest-PRF Zhangsan

²²Note that a sort of locative inversion seems to be possible with BEI-passives as long as the locative is an applicative argument. The fact that *on the table* forms a single morpheme and can depict an argument might indicate that it has some sort of ϕ -layer on top and does not behave like a pure PP, as the one in (64). Note also that in the active counterpart of this sentence, the preposition *zai* (*at*) in the verb is grammatical whereas it is not when the desk becomes the BEI subject. This could be another indication that the element loses its PP layer.

- (i) *Zhuozi-shang bei (wo) fang(*-zai)-le t yi-ben shu*
 desk-on BEI (1SG) put-(*be.at)-PRF *t* one-CL book
 Lit.: 'On the desk was put a book (by me).' (Chen, 2023: 98)

‘The police was forced to arrest Zhangsan (by Lisi).’ (Chen, 2023: 73)

A similar effect is observable in ditransitives: when PassP sits on top of a ditransitive (embeds two objects), either the indirect as well as the direct object can become the BEI subject, shown in (69). This indicates that [A'/A] is insensitive to intervening ϕ -goals.

(69) *Mandarin Chinese ditransitive passive* (Chen, 2023: 68)

- a. *Zhangsan bei (wo) gaozhi-le t zhe-jian shi*
Zhangsan BEI (1SG) inform-PRF *t* **this-CL** *matter*
 ‘Zhangsan was informed about this matter (by me).’
- b. *Zhe-jian shi bei (wo) gaozhi-le Zhangsan t*
this-CL **matter** BEI (1SG) inform-PRF *Zhangsan t*
 Lit. ‘This matter was informed Zhangsan about (by me).’

Low T/F, too, can proceed across multiple potential ϕ -goals, indicating that it has been probed for by an A'/A-minimal composite probe, shown in (70a) for low topics and (70b) for low foci.

(70) *Long-distance topicalization/focalization* (Chen, 2023: 103/104)

- a. *Li zhe-ben shu bi Zhang jiao Wang kan-guo t*
 Li **this-CL** **book** force *Zhang* order *Wang* read-EXP *t*
 Li, this book, once forced Zhang to order Wang to read.’
- b. *Li lian zhe-ben dou shu bi Zhang jiao Wang kan-guo t*
 Li **even this-CL** **book** **dou** force *Zhang* order *Wang* read-EXP *t*
 Li, this book, once forced Zhang to order Wang to read.’

To conclude, BEI passives as well as low T/F constructions are restricted to ϕ -goals, require information-structural/ [A'] feature related effects and can proceed across intervening DPs. This indicates that they have been probed for by a composite [A'/A] probe.

[A'/A] below C

As already noted above, both BEI-passives as well as low T/Fs can proceed out of multiple embedded clauses. This is only possible when the embedded clauses are reduced TPs, and blocked by CP boundaries. According to Chen, 2023, all VoicePs in Mandarin carry an [A'/A] probe and thereby can enable successive-cyclic A-movement through them. As soon as a CP intervenes, this is no longer possible: C heads in Mandarin only carry [A'] probes, thus movement through SpecCP would have to be A'-movement.²³ A'-movement to SpecCP is in principle possible, but can then no longer feed into matrix A-movement (prohibited by BIM). The relevant examples are presented below: (71) shows the grammatical versions (long-distance movement out of embedded TP), (72) the ungrammatical examples (extraction out of CP). An exemplary structure is given in (73). These patterns show that the location of movement-mediating [A'/A] probes in Mandarin Chinese must be below CP and C itself does not host [A'/A]; otherwise A-movement through CP should be possible.

(71) *BEI-passives and low T/F can leave TP*

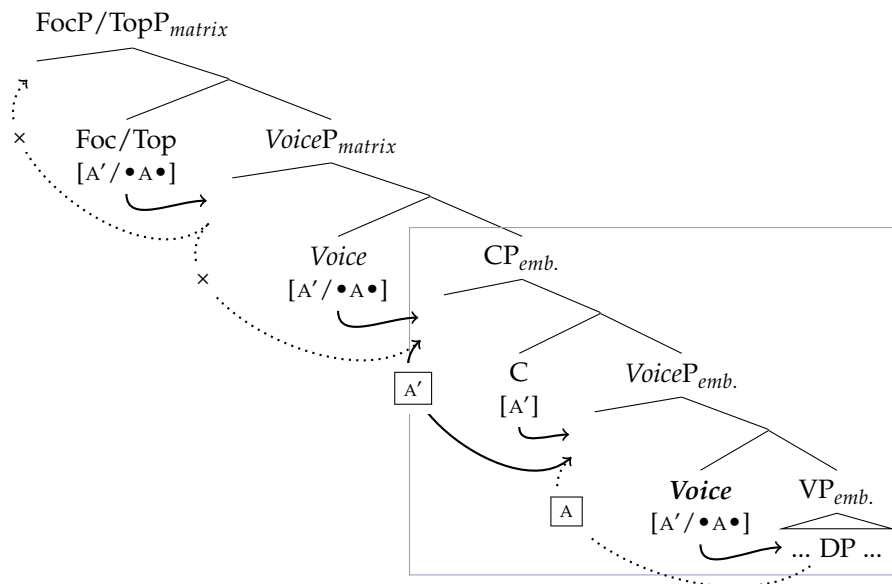
²³Chen, 2023 proposes that Mandarin C can carry an independent [A] probe in Hyperraising contexts; I set this aside for now.

- a. *Li, zhe-ben shu bi* [_{TP} Zhang kan-guo *t*]
 Li **this-CL book** force [_{TP} Zhang read-EXP *t*]
 'Li, this book, once forced Zhang to read x.' *Low topic* (Chen, 2024: 2)
- b. *Li, lian zhe-ben shu dou bi* [_{TP} Zhang kan-guo *t*]
 Li **even this-CL DOU book** force [_{TP} Zhang read-EXP *t*]
 'Li, even this book, once forced Zhang to read x.'
Low focus (Chen, 2024: 2)
- c. *Zhangsan bei Lisi bipo jingcha* [_{TP} arrest *t*]
Zhangsan BEI Lisi force police [_{TP} arrest-PRF *t*]
 Lit.: 'Zhangsan was forced *(by Lisi) the police to arrest x.'
BEI passive (Chen, 2023: 72)

(72) *Neither BEI-passive nor low T/F can cross CP*

- a. **Li, zhe-ben shu xiangxin* [_{CP} Zhang kan-wan-le *t*]
 Li **this-CL book** believe [_{CP} Zhang read-be.finished-PRF *t*]
 Int.: 'Li, this book, believes that Zhang has finished reading (it).'
- b. **Li, lian zhe-ben shu dou xiangxin* [_{CP} Zhang kan-wan-le *t*]
 Li **even this-CL book DOU** believe [_{CP} Zhang read-be.finished-PRF *t*]
 Int.: 'Li, even this book, believes that Zhang has finished reading (it).'
- c. **Lisi bei (jingcha) rentwei* [_{CP} Zhangsan hui mousha *t*]
Lisi BEI (police) think [_{CP} Zhangsan will murder *t*]
 INT: 'Lisi was thought that Zhangsan will murder (him) (by the police).'
- BEI passive* (Chen, 2023: 80)

(73) *No A-movement out of embedded CP*



To conclude, Mandarin Chinese BEI-passives and low topics/foci show all hallmarks of an A-movement chain provoked by an [A'/A] probe. According to Chen, 2023, this probe is located on all Mandarin Voice heads as well as on TP-internal Top/Foc heads. If Voice is embedded under PassP, [A'/A] transfers up to Pass. The distribution of the A'/A properties (the A'/A signature) of these three constructions follows from the composite probe analysis presented in chapter 4.

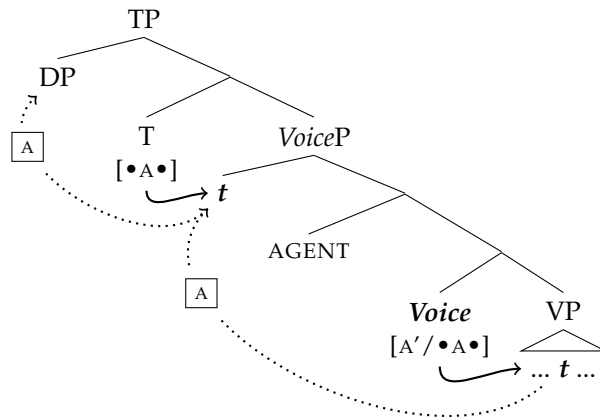
8.4 Khanty passives

Colley and Privoznov, 2020 propose an A'/A analysis for Khanty passives in which an $[A'/A]$ probe on T attracts an object and promotes it as new subject of the clause. An example is given in (74).

- (74) *maw-λ-am maša-jen-ə naur-em-a mā-s-i-jət*
candy-PL-1SG Masha-2SG-LOC kid-1SG-DAT give-PST-PASS-3PL
 ‘My candy was given by (your) Masha to my kid.’ (Colley and Privoznov, 2020: 112)

According to Colley and Privoznov, 2020, the distinction between a canonical passive and the Khanty passive in (74) lies in the presence of information-structural effects, the A'/A minimality profile of the construction, as well as in the fact that the agent is not demoted (although marked with a locative morpheme). In an A'/A signature terminology, Khanty appears to involve an $[A'/A]$ probe which attracts A-movement of its goal. As far as I can tell, nothing hinges on Colley and Privoznov’s assumption that $[A'/A]$ is located on T; we could just as well describe the construction via an $[A'/A]$ probe on passive Voice (or on PassP above Voice, as in Chen, 2023) followed by a terminal A-movement step to SpecTP. Since so far, $[A'/A]$ probes have primarily shown up on phasal heads, I suggest that this might also be the case in Khanty. Thus, refining the proposal in Colley and Privoznov, 2020, I propose that Khanty passive Voice is introduced with an $[A'/\bullet A\bullet]$ probe which A-extracts a DP from its c-commanding domain (thereby resembles Mandarin BEI passives and Balinese and Malagasy OV/PV constructions). In SpecVoiceP, the object becomes available for A-movement to the canonical subject position, SpecTP. The respective structure is shown in (75).

- (75) *Derivation of Khanty passives*



Note that, whilst the analyses for Dinka and Mandarin A'/A constructions are the subject of two whole theses, the account on Khanty $[A'/A]$ probing is only as extensive as a proceedings paper. Thus, many empirical properties of the A'/A signature are missing and I leave open an in-depth investigation of the exact empirical data for future research. The properties for which Colley and Privoznov, 2020 present data, however, follow a predicted A'/A signature, shown in table 8.4.

case	WCO	anaph. bind.	PG	feeds A-mvt	(re-constr.)	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	long dist.
✓	×	n/a	n/a	n/a	×	✓	✓	✓	A'/A	?
movement = A						probe = [A'/A]				[A'/A] on Voice

TABLE 8.4: Khanty passives

Movement chain: A-movement

The passivized DP undergoes A-movement. This is visible from the lack of weak crossover effects, a lack of reconstruction effects (for variable binding) and the fact that it feeds case-assignment.

Obviates weak crossover: the DP undergoing passivization does not induce WCO. In (76) the theme (*every girl*) is moved across the agent (*her mother*) and can bind it from its landing site.

- (76) *kaʒəŋ ɛwi_i aŋk-əλ-ən_i škola-ja tθ-s-i*
every girl mother-3SG-LOC school-DAT lead-PST-PASS.3SG
 'Every girl_i was taken to school by her_i mother.'
 (Colley and Privoznov, 2020: 4)

No reconstruction for variable binding: the passivized DP does not reconstruct into its base-position for variable binding, visible in (77), where *her daughter* moves out of the scope of *every mother* and cannot reconstruct for binding.²⁴

- (77) *ew-əλ_{*i/j} kaʒəŋ aŋk-ən_i aškola-ja tθ-s-i*
girl-3SG every mother school-DAT lead-PST-PASS.3SG
 'Her_{*i/j} daughter was taken to school by every mother_i.'
 (Colley and Privoznov, 2020: 4)

Feeds case: Khanty passivization feeds into case-assignment. The moved DP receives nominative case, shown in the contrast between (78a) and (78b). In the active example (78a), the recipient *kid* is marked as dative. As soon as it becomes the subject of the passive, in (78b), it receives nominative case (morphologically unmarked).

- (78) *Khanty passive feeds case* (Colley and Privoznov, 2020: 2)
- a. *məŋ nawrɛm-ɛm-a maw mä-s-əw*
 we **kid-1SG-DAT** candy give-PST-1PL
 'We gave candy to my kid.'
- b. *nawrɛm-ət maša-jen-ən maw-ən mä-s-i-jət*
kid-PL Masha-2SG-LOC candy-LOC give-PST-PASS-3PL
 Lit.: 'Our kids were given by (your) Masha candy.'

There are no data for any other A-movement property (PGs, other reconstruction effects, feeding into anaphor binding), thus the empirical base-line is a bit scarce. That movement is induced by an [A'/A] probe has more empirical support, shown below.

²⁴Note that reconstruction for variable binding is the weakest of all reconstruction tests.

Probing head: [A'/A]

The probing head involved in Khanty passives is [A'/A]. This is evident from the restriction to nominals, the presence of information-structural effects, the A'/A minimality profile of the construction as well as ϕ -agreement.

Information-structural effects: Colley and Privoznov, 2020 suggest that the passivized DP needs to be a topic: passive constructions can only be used as an answer to the question *What happened to X?* (when X is the subject). Further, the passivized DP cannot be focalized, as shown in (79a) – Colley and Privoznov, 2020 take this to be an argument for its topicality (as focalization and topicalization usually stand in complementary distribution). Other constituents in a passive structure can be focalized, see (79b), which shows that focalization is not in general prohibited in passives.

- (79) *Passive subject cannot be focalized* (Colley and Privoznov, 2020: 8)
- a. # [Ar-en]_F up-en-ən ari-s-a
 song-2SG sister-2SG-LOC sing-PST-PASS.3SG
 #‘Your song was sung by your sister.’
- b. Ar-en up-en-ən [muλχatλ]_F ari-s-a
 song-2SG sister-2SG-LOC yesterday sing-PST-PASS.3SG
 ‘Yesterday your song was sung by your sister.’

Restriction to nominals/ ϕ -goals: Passivization is restricted to nominals/ ϕ -goals: the directional (non-nominal) phrase *to school* in (80) cannot become a passive subject.

- (80) *Škola maša-jen-ə man-s-a
 school Masha-2SG-LOC go-PST-PASS.3SG
 Int.: The school was gone to by (your) Masha.
 (Colley and Privoznov, 2020: 3)

A'/A minimality: A passivized DP can skip an intervening nominal; in (81a), the direct object *candy* skips the indirect object *kid*. The recipient, *kid* can be passivized just as well, shown in (81b).

- (81) *Indirect and direct object can be passivized* (Colley and Privoznov, 2020: 112)
- a. maw-λ-am maša-jen-ə nawr-εm-a t mā-s-i-jət
 candy-PL-1SG Masha-2SG-LOC kid-1SG-DAT t give-PST-PASS-3PL
 ‘My candy was given by (your) Masha to my kid.’
- b. nawr-εm-ət maša-jen-ən t maw-ən mā-s-i-jət
 kid-PL Masha-2SG-LOC t candy-LOC give-PST-PASS-3PL
 Lit.: ‘Our kids were given by (your) Masha candy.’

This indicates that the [A'/A] probe on Voice is A'/A-minimal and not sensitive to an intervening ϕ -goal. Note that in (81b), when the recipient is extracted, the theme (*candy*) is marked as locative. I follow Belkind, 2024 in analysing the locative as default case, inserted as last resort in lack of structural licensing.

Khanty passives trigger ϕ -agreement: The verb ϕ -agrees with the passivized DP, as can be seen from plural agreement on *give* in both examples in (81).

To conclude, Khanty passives can be summarized under an A'/A analysis in which Voice hosts a [top/• ϕ •] probe which attracts A-movement of an object. The moved goal then proceeds to SpecTP where it becomes the canonical subject of the clause. Colley and Privoznov, 2020 do not mention whether passivization can proceed across a CP boundary; I assume that this is ungrammatical, but do not have data to justify this assumption. To summarize; there is much research left to do in order to answer the question of whether Khanty passives are best analyzed in terms of composite probing. If we choose to use a composite probe analysis, then Khanty exhibits a predictable A'/A signature, just as the other instances of A'/A configurations did.

8.5 English *tough*-movement

In the last part of this chapter I want to briefly discuss English *tough*-movement, shown in (82).

- (82) **Linguists** are tough to please *t*. (Hicks, 2017: 1)

Tough-movement has been the subject to much syntactic discussion ever since, as it depicts a mixture of A'- and A-properties in an apparently single movement chain. *Tough*-constructions behave like A'-movement in that they license parasitic gaps and can cross intervening noun phrases. At the same time, they behave like A-movement in that they create new antecedents for anaphor binding, do not induce weak crossover, do not reconstruct for principle C, feed into case-assignment and cannot cross finite CP boundaries (see Longenbaugh, 2017 and Hicks, 2017 for recent overviews).

- (83) *A'-properties of tough-movement*

- a. **These books** were tough [for critics of __ (PG)] [to praise *t* sincerely].
Parasitic gap licensing (Hukari and Levine, 1990: 142)
- b. **This book** was easy [to convince Bob [to read *t*]]
Can cross noun phrases (Longenbaugh, 2017: 11)

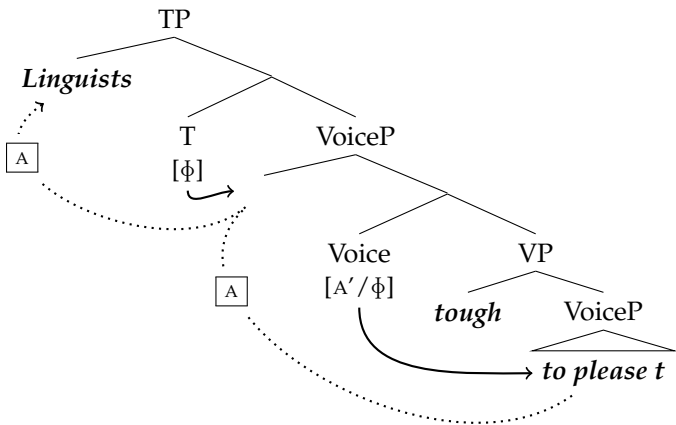
- (84) *A-properties of tough-movement*

- a. **John and Mary** were hard for each other's friends to get along with *t*.
Creates new antecedents for anaphor binding (Longenbaugh, 2017: 18)
- b. **No employee_i** will be easy for us to get his_i boss to fire *t*.
Obviates weak crossover (Longenbaugh, 2017: 18)
- c. **John_i's mother** is tough for him_i to endure *t*.
No reconstruction for principle C (Mulder and Den Dikken, 1992: 309)
- d. ***John_i** was easy to show [_i that Bill killed *t*]
Cannot cross CP (Longenbaugh, 2017: 14)
- e. ***Him/he** is tough [to please *t*]
Feeds unmarked case

The standard account for *tough*-constructions is one in which the subject (*linguists*) is base-generated in SpecVoiceP of the *tough* predicate (and moved to SpecTP) and co-indexed with an A'-moved null operator in the embedded clause (Chomsky, 1977; 1981; Browning, 1987; Heycock, 1991; Rezac, 2006; Keine and Poole, 2017). Under a high-base-generation analysis, *tough*-constructions do not posit an exception to the A'/A distinction, since the subject (*linguists*) only moves within the matrix clause. Longenbaugh, 2017, however, presents a movement analysis for *tough* constructions,

couched into a composite probe framework. He suggests that the subject is not base-generated in the matrix clause but moves from within the embedded (structurally reduced) clause. According to him, Voice in *tough* predicates is equipped with an [A'/A] probe, embeds a reduced complement clause and thereby can attract an embedded DP to SpecVoiceP. From there, the DP can become the matrix subject (= move to SpecTP). The proposed structure is shown in (85).

(85) Tough-movement à la Longenbaugh, 2017



The empirical A'/A signature of *tough*-movement is the following:

case	WCO	anaph. bind.	PG	feeds A-mvt	(re-constr.)	info-struct. effects	DP/ ϕ -goal	feeds ϕ -agree	Minimality	long dist.
✓	×	✓	✓	✓	×	?	✓	✓	A'/A	×
movement = A						probe = [A'/A]				[A'/A] below C

TABLE 8.5: The A'/A signature of *tough*-movement

Under an A'/A signature analysis, one could assume that [A'/A] is only located on *tough* Voice heads and induces A-movement. This would almost predict the A'/A signature in table 8.5—but only almost. Note that parasitic gaps do not behave the way we want them to; if the movement chain is A-movement, we expect that parasitic gaps are not licensed. Unexpectedly, *tough*-movement can license parasitic gaps, repeated in (86).

- (86) **These books** were tough [for critics of __ (PG)] [to praise *t* sincerely].
(Hukari and Levine, 1990: 142)

In all other instances of English movement, parasitic gap licensing tracks A'-movement and not A-movement. Also, under the assumption that parasitic gaps can only be formed if movement abstracts over choice functions and not over individuals (van Urk, 2015), the allowance for PGs in *tough*-movement is difficult to explain. At the same time, however, note that we lack parasitic gap data for all other A'/A signatures discussed in this thesis (except Malagasy). Further, there also instances of scrambling which show a split between WCO/anaphor binding and the ability

to license parasitic gaps (see Webelhuth, 1992). Thus, the claim that parasitic gap licensing tracks A'-movement is, so far, a rather theoretical one anyways and is not built on a significant empirical database (in mixed derivations). Hence, potentially, parasitic gaps are not a strong criterion for A'- or A-movement after all; if this is the case, then the A'/A signature of *tough*-movement behaves just as expected and an [A' • A •] analysis (along the lines of Longenbaugh, 2017) could, in fact, work. One last problem I see are instances of long-distance extraction, like example (87) where the subject of the *tough* predicate raises from within two embedded TP clauses.

(87) **This book** was easy [to convince Bob [to read *t*]]

(Longenbaugh, 2017: 11)

Longenbaugh, 2017 captures this via successive-cyclic movement through all embedded VoicePs, similar to Chen, 2023 above. In order for this to work, he has to assume that every embedded Voice head carries and [A'/A] probe, in order to hand on movement of *this book*. For English, it seems to be clear that not all instances of Voice carry an [A'/A] probe; thus, for Longenbaugh's analysis, we would have to assume that only the Voice heads embedded under a *tough* predicate do. To me, this appears to be a serious look-ahead problem; how would a deeply embedded Voice head know whether to be merged with [A'/A] or not. On the other hand, this kind of problem also arises for Mandarin Chinese long-distance movement and potentially also for Balinese and Malagasy. To conclude, I do not settle for a final answer whether *tough*-movement is better captured under a base-generation analysis or an [A'/A] analysis.

Chapter 9

Concluding Remarks and Open Ends

9.1 Concluding remarks

The purpose of this thesis was fourfold: first, I aimed to present a systematic overview of existing $[A'/A]$ probe accounts, what constructions and languages they have been applied to and in what details the analyses resemble each other or diverge from each other. The research on composite probes has intensified rapidly in the last ten years but there seems to be very little agreement about exact syntax of $[A'/A]$ probes, which led to a seemingly anything-goes-impression of movement chains as soon composite probes are involved. I tried to highlight that this is not necessarily the case but that we need to disentangle what constructions we try to explain and develop a more organised understanding of $[A'/A]$ probes if we want to include them as a syntactic tool in our current theories.

Second, I presented a uniform analysis for one type of composite probes, namely $[A'/\phi]$ probes. The major novelty of the analysis is that, even features may combine to composite probes and search for a goal in unison, a movement chain itself is never composite; it is either an A' - or an A -chain, independent of whether it was induced by a bare or a composite probe. The analysis further addresses questions like; how does the search space and agreement process of composite probes look like? How to composite probes relate to established principles like the Ban on Improper Movement, the Phase Impenetrability Condition or Relativized Minimality? On which heads can $[A'/A]$ probes occur and how to they enter the syntactic derivation? My main conclusion on the last point is that composite probing always seems to be an instance of a $[A]$ probe that ended up on a phasal head and therein combines with an $[A']$ probe; this can happen for derivational, parametric or diachronic reasons.

Third, I compared the mixtures of A' - and A -properties in composite A'/A constructions cross-linguistically (mainly such have received $[A'/A]$ analyses in the recent years). My focus was to see whether what has been termed " A'/A movement" exhibits a random or a systematic distribution of A' - and A -properties. Crucially, the latter is the case, which led me to postulate that the binary A'/A distinction might better be captured as a more fine-grained A'/A signature: a three-fold system that derives which properties always cluster together and which can be subject to variation. The A'/A signature is defined by the (constructions-specific) composition of three syntactic factors: i) the movement chain (A' or A), ii) the probing head ($[A']$, $[A]$ or $[A'/A]$) and iii) the location of the probing head.

Last, I worked out detailed $[A'/A]$ analyses for two constructions: i) cross-clausal A-dependencies (Hyperraising and long-distance agreement) and ii) promotion to pivot in Balinese and Malagasy. Both have received $[A'/A]$ analyses in preceding accounts; however, these accounts do not focus on the distribution of A'- and A-properties in the constructions. I refined and extended the existing analyses, couched them into the uniform composite probe analysis presented earlier, and showed that both derivations exhibit predictable A'/A signatures.

Overall, this thesis is an interim conclusion, an overview and a report of my work on composite probes in the last years. There is still much work to do and many questions unanswered; nevertheless, I hope that the ideas presented here, even though most of them are not as detailed, fine-grained or final as I would like them to be, at least invoked some thoughts in you, the reader, which might help for future research, in one or the other way.

9.2 Open ends

The following summarizes some open ends and points of discussion I have been conquering but have not had the time to include in the main part of the thesis. There are much more open questions than what is listed below and most likely many more I am not even aware of yet; the following should therefore not be perceived as extensive list but rather as a "best of".

9.2.1 Minimality in $[A'/A]$ probing

In this thesis, I presented composite probes to be A'/A-minimal, that is insensitive to partially fitting ϕ -goals. The question of whether $[A'/A]$ probes are defective to intervention and thereby can or cannot skip bare ϕ -goals in their way is probably the subject of most discussion about composite probes. This is particularly the case as it hinges on a variety of other assumptions in which researchers tend to disagree (e.g. which projections count as phases, how far a probe's search space reaches and whether we treat composite probes on C and on Voice in the same way). The main reason for me arguing that $[A'/A]$ probes are A'/A-minimal is the data from Mandarin Chinese; in Mandarin BEI passives and low topics/foci, the $[A'/A]$ probe on Voice really seems to be able to skip intervening DPs, visible from ditransitives and long-distance extraction (see chapter 8 for data). I postulated that the same is the case in Dinka and Balinese/ Malagasy $[A'/A]$ probes on Voice, however, the arguments presented for these claims could be reformulated in a way that $[A'/A]$ is sensitive to the closest ϕ -goal. For example, I showed that in ditransitives, Voice can either attract the direct or indirect object. In Dinka, the direct and indirect object can alternate in their base-order, thus we do not really see whether the $[A'/A]$ probe picks the higher or lower one. I presented one ditransitive case without free base-order alternation, for which, however, the verb is *warn* and does not pattern with the other ditransitives in all respects. In Balinese and Malagasy, on the other hand, there are two different applicative markers, depending on what object is promoted to pivot. I ascribed this to the ability of Appl to license either the applicative or theme object; it could, however, just as well be the case that these two languages just as well allow two different base-orders in ditransitives. This has been suggested for Tagalog (in Rackowski, 2002 (but criticized in Chen, 2017)), thus I would not be surprised if we also found it in other Austronesian languages. If leave Voice and

look at C, it does not get better; the minimality profile of $[A'/A]$ on C even more difficult to determine. If we assume that VoiceP is phasal, then $[A'/A]$ on C can only see as far as SpecVoiceP. So, to start with, the language must in first place have a mechanism to move an object up to SpecVoiceP. This is the case OV in Dinka and Balinese/Malagasy OV, so let us look at these cases. The VoiceP has been built and both the external argument and the object are at SpecVoiceP. In Dinka, the external argument moves to SpecTP but is, according to van Urk, 2015, embedded into a silent PP. In his analysis, the PP layer is inserted as a way of last-resort case-licensing, so in my understanding, only after the CP has been built and probed. This means, at the moment that $[A'/A]$ on C is actively searching, the external argument in SpecTP is still an available ϕ -goal (has not been embedded into PP); if this is the case, $[A'/A]$ on C must be able to skip the bare A-subject in SpecTP, thereby be insensitive to partial fits. However, we could just as well assume that PP insertion happens before C starts probing. In this case, the external argument in SpecTP would not be visible anyways and the object in SpecVoiceP would depict the closest ϕ -goal. Thereby, $[A'/A]$ would not have to be A'/A minimal. In Balinese and Malagasy, I suggested that C and T are fused; thereby, there is no separate SpecTP that could host the external argument. What $[A'/A]$ on C+T finds is an external and an internal argument, both in SpecVoiceP. As I assume that multiple specifiers of the same head are equidistant, we cannot say whether $[A'/A]$ in this case is A-minimal or not.

If we decide to go the other way and assume that $[A'/A]$ probes are, in fact, sensitive to bare ϕ -goals and thereby A-minimal, we need to do two things: first, we need to find a way to account for Mandarin Chinese. For the ditransitives, we could assume that there are two different base-orders of objects as well (this would have to be tested). For the long-distance movement patterns, we could assume that the direct object of an embedding verb and the clause it embeds are unordered. This means, in a showcase construction like *Lisi, I forced Zhangsan [to meet __]*, we could assume that *Zhangsan* and the embedded clause *to meet* are not hierarchically ordered but equally far away from the matrix Voice head. Thereby, the $[A'/A]$ probe would not have to skip *Zhangsan* to reach the embedded object *Lisi*.

If we assume that $[A'/A]$ probes can only pick the closest ϕ -goal, we could establish a nice correlation to A'-extraction restrictions. Branan and Erlewine, 2020; 2022; Coon, Baier, and Levin, 2021 suggest that there is "A'-movement restricted to the closest DP"; a movement operation they derive via an $[A'/D]$ probe. The main job of the [D] probe is to restrict $[A']$'s search space to whatever is the closest DP. If we assume that all $[A'/A]$ probes can, in general, only find the closest DP (this DP needs to carry A'/A, otherwise the derivation fails), then "A'-movement restricted to the closest DP" could simply be an instance of an A'/A signature where $[A'/A]$ probing triggers A'-movement. This could be a way to include A'-extraction restrictions into the A'/A signature. Another way to include A'-probing for the closest DP is to thoroughly investigate what movement properties these constructions really come with. Newman, 2023 points out that all of the examples presented in Branan and Erlewine, 2020 resemble more A-movement than A'-movement, thus we expect them to be A-minimal. Under a composite probe analysis, we could assume that what is happening in A'-probing for the closest DP is similar to what happens with minimality in Hyperraising constructions (see chapter 4, section 4.9): C carries an $[A'/\bullet A\bullet]$ probe but Voice does not. Thus, C can only see as far as the subject and thereby appears to be A-minimal. If it wanted to raise an object, there must be an independent way for this object to leave VoiceP via A-movement. As long as a language does not exhibit a strategy to do so, the object is can never be attracted by $[A'/A]$ on C; not

even if it was A'-movec to SpecVoiceP, as this would violate the BIM.

A final argument against A'/A minimality (that I have not addressed at all) are islands. For example, wh-islands have been proposed to be the result of a higher [A'] goal which would have to be skipped in order to reach a lower, deeper embedded [A'] goal. This would violate A'-minimality. If we assume that an [A'/A] probe is not sensitive to defective intervention, it should not be sensitive to either bare [ϕ] nor bare [A'] goals. This means that, in principle, it should be able to reach into a wh-island and extract a fully fitting goal out of it. I do not know of any data that supports or to contradicts this claim; however, I would be surprised if such a construction is grammatical. Thus, we either need another theory of islandhood or A'/A minimality cannot be the full story for [A'/A] probes.

9.2.2 [A'/A] attracting A'-movement

As you might have noted, the only instance of an [A'/A] probe triggering A'-movement is found in LDA constructions. Thereby, so far, my empirical basis for the existence of an [A'/A] probe that induces A'-movement is rather scarce. This does not necessarily mean that this construction does not exist, it could simply be the case that it has not invoked much interest among the [A'/A] researchers. This could be the case as its empirical profile is not as interesting as [A'/A] + A-movement. [A'/A] + A'-movement would look like regular A'-movement with some add-on properties; namely that it triggers ϕ -agreement at the landing-site and targets nominals. It could very well be the case that there is a form of wh-agreement or complementizer agreement that fulfills this profile and thereby supports my claims. If you know of any, please let me know.

Another possibility could be that an [A'/A] probe can only induce A-movement, not A'-movement. We could assume that when an [A'/A] probe is merged, both probes always want to trigger movement. We could assume that A'- and A-probing is timed (similar to Abels, 2007) and thereby [A] always gets precedence over [A']. Thus, all movement that an [A'/A] probe can ever induce is A-movement. We would then have to find another analysis for LDA but this should not be too difficult; there is a variety of these out there. If this is case, then there would in fact be something that can be termed "composite A'/A movement". In an A'/A signature terminology, that would be [A'/A]+A-movement, but if that is the only possible combination, we could just as well refer to it as "A'/A movement".

9.2.3 What is A-movement?

This thesis builds on a very particular understanding of A-movement, namely such which I claim is induced by a [ϕ] probe. However, there must exist other A-movement triggers: how else can we derive A-scrambling, which has no repercussions on ϕ -agreement or case? It most likely is triggered by something else than a [ϕ]-probe. There has been a lot of research dealing with what A-movement is and how we can find an account that unites it with operations like scrambling. I definitely do not do justice to the vast amount of literature by ignoring most of it and simply setting A-scrambling aside. Further, I postulated that even in languages that lack ϕ -agreement completely (Mandarin Chinese, Balinese, Malagasy,...), there is still something like an "abstract [ϕ]-probe" that triggers A-movement. This claim, too, is highly stipulative and most likely not the best solution of how to describe A-movement in these languages. The reason for me to assume such an analysis is that I tried not to re-invent the wheel; I based my analysis on existing that are out there, one of which is

that A-movement is triggered by a $[\phi]$ feature. The part of this thesis concerned with what induces A-movement will, most likely, be the subject to many many revisions and corrections, potentially lasting until the end of my career.

Nevertheless, whatever may be the trigger for A-movement and whether, after all, it might in fact be a positional requirement; the empirical patterns I present in this thesis will still be there, irrespective of what we tie movement to.

9.2.4 Phase unlocking and A-movement through CP

I presented A-movement through CP as being easily mediated by the simple presence of an $[A]$ probe on C. There exists a growing body of research that deals with phase-unlocking; that is the idea that a CP complement becomes permeable for A-movement if it has been agreed with (e.g. Rackowski and Richards, 2005; Halpert, 2012; 2019; van Urk and Richards, 2015; Lee and Yip, 2024; Halpert and Zeijlstra, 2024). There are valid arguments in favour of phase-unlocking accounts; the strongest one is fact that there is very little true empirical evidence for cross-clausal A-movement to actually make a stopover at SpecCP. As we saw in this thesis, the allowance for cross-clausal movement is independent from both the properties that track the movement chain as well as such that track the probing head. Thus, the A'/A signature would not lose much if we tied the ability to cross a CP boundary to the language specific ability of phase-unlocking instead of the presence of an $[A]$ probe on C. I personally have the impression that phase-unlocking encounters just as many stipulations as an $[A]$ on C" analysis does (e.g. how to restrict it, how to derive it in languages without overt agreement, why it makes the clause permeable only for one but not necessarily all kinds of movement out of it, why would it be optional, etc.), but I will leave an in-depth comparison of the predictions the two accounts make open for future research.

9.2.5 Balinese and Malagasy

The analysis for Balinese and Malagasy will need some refinement which I, for now, leave open to future work. First, our latest elicitation data showed, long-distance promotion to pivot has more properties of A' -movement than A-movement. A long-distance extracted pivot must, for example, reconstruct into the embedded clause for principle C and appears to induce WCO with a matrix element. If this is the case, this means that either the $[A'/A]$ probe is not located on phasal C or something else prohibits A-movement to leave a CP clause. Katochoritis, 2024 presents an idea in terms of phase-unlocking as independent $[A'/A]$ probing; $[A]$ on matrix Voice agrees with the whole embedded clause whilst $[A']$ extracts the pivot out of it.

Further, the information-structural effects I employ are tied to definiteness restrictions. The requirement for a DP to be definite or specific is not necessarily an indication of an $[A']$ feature but could also be the result of the DP leaving VP existential closure, as is the case in Skandinavian object shift. There, too, we find definiteness restrictions but the construction is usually not analyzed as involving an $[A']$ probe.

Next, the proposal that TopP and TP fuse into one projection can most likely not be upheld. Rather, I assume that the pivot moves directly to a TopP projection (involving $[A'/A]$) whilst SpecTP remains empty. The reason to assume this is that the pivot appears to be able to outscope negation (at least in Malagasy, see Keenan, 2008) and thus should be above TP. This brings us to the question of why it is

controlled. Along the lines of Ershova, 2019, I assume that control is not necessarily restricted to the element in SpecTP but rather to the highest element within the voice domain (see also Bobaljik, 2023). This touches upon the question of where and how in the clause subjecthood is defined; even though in this thesis I use the term "canonical subject position" when referring to SpecTP, there is good reason to believe that not all languages define subjecthood via TP. West Circassian, for example, A-moves the object into SpecTP whilst the agent in SpecVoiceP keeps all subjecthood properties. Ershova, 2019 suggests that subjecthood and control are determined in VoiceP instead of TP. Along this lines, it might very well be the case that in Balinese and Malagasy the first movement step, movement to SpecVoiceP, defines what is the subject (and thereby what is controlled), whilst the second movement step (into the left periphery) has no influence on that anymore. I leave open for future research how to structurally define a subject and how the exact analysis can be adapted for Balinese and Malagasy.

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