universität wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

"Materiality, meaning and mind: the ontology of meaning systems in language"

verfasst von / submitted by

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angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Arts (MA)

Wien, 2018 / Vienna, 2018

Studienkennzahl lt. Studienblatt / degree programme code as it appears on the student record sheet:	A 066 812
Studienrichtung lt. Studienblatt / degree programme as it appears on the student record sheet:	Masterstudium English Language and Linguistics UG2002
Betreut von / Supervisor:	Univ.-Prof. Mag. Dr. Nikolaus Ritt

Acknowledgements:

In the first *History of English* lecture I ever attended – the lecturer suddenly entered and to most students' dismay addressed the audience directly in Middle English, quoting Geoffrey Chaucer. Most found it strange. I found it extremely exciting. I will probably never forget the lines of Beowulf I first heard in his classes and still remember to this day. I wish to thank my supervisor Univ.-Prof. Dr. Nikolaus Ritt for his inspiration, support and patience for me during the writing of this work.

I wish to also express my gratitude to everyone who has lent me their support and especially to Zachary Valtschanoff and Halina Yemelyanenka for their help in the revisions of this thesis.

॥ हरिः ॐ तत्सत् ॥

Eidesstattliche Erklärung

Ich erkläre hiermit Eides Statt, dass ich die vorliegende Arbeit selbständig und ohne Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe. Die aus fremden Quellen direkt oder indirekt übernommenen Gedanken sind als solche kenntlich gemacht. Diese Arbeit wurde bisher in gleicher oder ähnlicher Form keiner anderen Prüfungsbehörde vorgelegt und auch noch nicht veröffentlicht. Ich übernehme volle Verantwortung für die dargestellten Ansichten, inklusive mögliche Ungenauigkeiten und Fehler.

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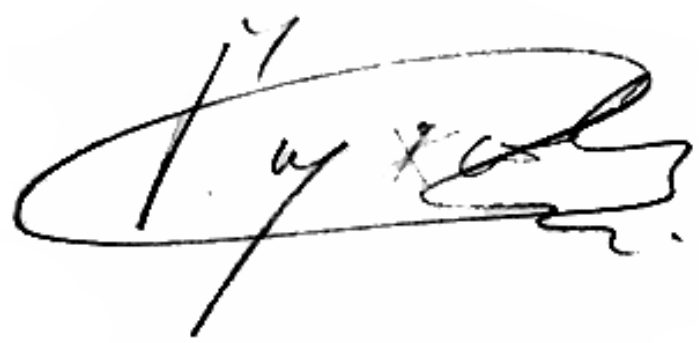

Abstract:

This thesis investigates the grammaticalization of the *be going to* construction in English on the basis of Cognitive Grammar theory (Langacker 1987) using samples taken from the Early English Books Online corpus of historical English (Davies 2017). Each of the 1944 individual examples is analyzed with the help of theoretical criteria developed on the basis of CG and Hopper and Traugott's model of the grammaticalization of *be going to* (*ibid*. 2003) and then statistical analyses conducted in order to pinpoint major instances of change in the construction's usage as well as to look for patterns in its semantic shift over the course of 17 decades from the 1530s to the 1690s. In this way three distinct periods were identified: 1530s – 1580s, when the instances of the construction's usage begin to increase, in the two periods between the 1580s – 1630s and the 1630s – 1690s the number of instances doubles. It was observed that initially all usages of the construction became more frequent, between the 1640s and the 1680s the more metaphorical spatial usages of *be going to* began to compete with its uses with verbs of action, which use began to prevail from the 1690s onwards by a large margin. Additionally it was determined that the usage of *be going to* to express intention rather than future might have been a more prominent element of its grammaticalization than its use as a marker of tense.

Key words: *grammaticalization, cognitive grammar, conceptual metaphor theory, frames, domains, lexical semantics, abstraction, ontology of language, tense markers, conditionality, categorisation*

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1. "Ariadne's Thread"

"We confront chaotic potential with our consciousness and we cast that into reality."

Jordan B. Peterson, Professor of Clinical Psychology, University of Toronto

To enter the labyrinth of the origins of meaning without a guiding thread to set some order into their apparent chaos would be quite a challenging endeavor indeed. Of linguistic phenomena, those associated with grammaticalization (we shall discuss the issues connected with the definition of these terms later on) can provide an adequate vehicle for such an investigation as they deal with probably the most mysterious and yet defining characteristic of human cognition – one, upon which language itself is also intrinsically based – the fascinating associations between *form* and *meaning*.

Although the species of *Homo sapiens* has now been proven to have existed for more than 300,000 years[1], symbolic behavior cannot be unequivocally attested before the Upper Paleolithic (ca. 40, 000 BCE). The Neolithic Revolution – the beginnings of civilization and agriculture, starting around 10, 000 BCE, saw a real mystery – an unprecedented "artistic explosion", which may have coincided with the emergence of more complex forms of communication, though it remains debatable whether these phenomena were causally connected. The oldest verifiable truly symbolic "art" (yet another problematic term) that survives to the present day consists mainly of cave paintings and small sculpture[2]. The oldest site possibly serving as evidence of complex social organization is the megalithic complex of Göbekli Tepe near the Turkish city of Şanlıurfa, dated to roughly the 10th millennium BCE (Schmidt 2011: 917). It is unclear what the communication abilities of the different species of the *Homo* were at any of these times, however. Besides archeological, paleontological and genetic data, the only other approach that allows some access to the past is the study of ancient languages and texts.

[1] Until recently it was though that modern humans were 200, 000 years-old as a species, but recent genomic research (cf. C. Schlebusch et al. 2017) and archeological finds in Morocco (cf. Hublin et al. 2017) have pushed that date a further 100, 000 years in the past.

[2] As exemplified by the Venus of Hohle Fels (~33, 000 BCE), the Lion-man of Hochlenstein Stadl (~38, 000 BCE) and the cave art from El Castillo (~39, 000 BCE). (N.B. The artistic phenomenon is by no means limited to Europe, as some of the oldest existing cave images are from Indonesia and dated approx. to 40, 000 BCE)

Different schools of linguistic thought take different approaches to tackling the problem of understanding different languages and their seemingly infinite possibilities for variation. The phenomena of grammaticalization, however, are widespread and cross-linguistically attested (Hopper & Traugott 2004: 2) across a wide variety of different language families. As an intrinsically diachronic phenomenon, any discussion of grammaticalization requires the reader to acquaint themselves with the different positions on the nature of general human cognition and its evolution over time, as well as with its interconnection with language and the development and issues of grammaticalization theory itself.

In this text we shall look at the phenomena of grammaticalization through the lens of the "linguistic cycle" (in the sense used by Hodge (1970: 1) who elaborated on Jespersen's previous work), among other key concepts and, more specifically, at the development of certain recurring patterns within the verbal system of some Indo-European and Afro-Asiatic languages, as well as work on Cognitive Grammar (CG) and Conceptual Metaphor Theory (CMT) as pertaining to the notion of conceptualization and its relation to grammaticalization by, among others, Langacker, Huumo, Kövecses, Brisard and De Wit. We shall discuss the importance of *framing*, *apprehension*, *profiling* and *schematicity hierarchies* and relative utility of these concepts for the explanation of grammaticalization phenomena. We will then examine the relation between "meaning" and "form" in the historical development of the *be going to* construction in English. We shall commence with an overview of the istory of grammaticalization as a subject of study adapted from Hopper and Traugott[3] (2004: 1-56), with some omissions and/or elaborations whenever felt necessary and with particular focus on the topic at hand. As for a general definition of grammaticalization, we shall adopt the one given in H&T:

> "[G]rammaticalization" refers to that part of the study of language change that is connected with […] how lexical items and constructions come in certain linguistic contexts to serve grammatical functions or how grammatical items develop new grammatical functions [as well as] with characterizing the subset of cross-linguistically recurring correlations across time among semantic-pragmatic, morphosyntactic and (sometimes) phonological changes. […]
> (H&T 2004: 1)

[3] Henceforth „H&T"

2. Research question and methodology

Research question:

Has the original motion component of the *be going to* construction's meaning become lost or obscure(d) during its grammaticalization, and, if so, at what times and to what extent?

Query

A search string of the auxiliary verb [be] as a lemma and the *going to*-construction ([be] going to) was used to retrieve 1944 examples spanning a 200-year period from the 1490s until the 1690s from the EEBO corpus (Davies 2017). "Early English Books Online (EEBO) is a collection of texts created by the Text Creation Partnership. The "open source" version [...] contains 755 million words in 25,368 texts from the 1470s to the 1690s" (Davies 2017). This has been done in order to account for occurrence of the construction in the various persons and tenses, thus making the search as inclusive as possible, but also at the same time limiting the instances to those of potential interest, namely, excluding *going* as a nominalized verbal form (as in *the going*). By not limiting the end of the string, the search allows for any word to follow the fixed expression (conventionally a noun phrase or a clause with a verb in the infinitive), which can give us a broader look into potential expressions that might reveal tendencies of the associated meanings and their semantic change over time. These shall be briefly compared with a search string of *going to* (excluding the auxiliary [be]) to investigate any possible tendencies of co-dependence and/or increased phraseology between the two. As the syntax of the corpus does not allow for simultaneous searches of any number of wildcards (*) between the different element of a phrase (e.g. queries of the type *[be] going to * v**), in order to account for phenomena like split infinitives[4], a search was

[4] "The term *split infinitive* is generally accepted for the insertion of some word or words between *to* and an infinitive - which thus is not really '*split*', but only separated from the particle that usually comes immediately before it" (Jespersen 2013 [1954]: 330).
The 'split infinitive' emerges around the 14th century and can be found sporadically in various texts. In ME one finds not only the occasional adverb, but an object inserted between *to* and the infinitive. Another case is the so-called "linguistic self-criticism", where the writer is unsure of how to express themselves, evident in the presence of an inserted intensifier between *to* and the verb form, as in *to even wish that, would spoil all* (cf. Jespersen 2013 [1954]: 332).

conducted with the results being 18 in number out of the 19,216 for all occurrences of *be going to* in the entire corpus. They shall therefore form no part of the current study.

Sampling

The *1947* examples of the *be going to* construction for specific decades have been taken from EEBO (Early English Books Online). The analysis has been conducted with the help of theoretical analytical tools, specifically designed to try and explain the various shades of meaning and ascertain their relative relevance. The three-stage scale of meaning change of Hopper and Traugott (2003; see **Section 6.2**) has been adopted as a basis. This would include the varying degrees of relevance of the motion sense on the different levels of abstraction according to Conceptual Metaphor Theory as presented by Kövecses (2017) and elaborated by the examination of targeted pieces of relevant research (see **Sections 4.**, **5.** and **6.**).

a. Examples were firstly selected on the basis of availability; there are some years (1470 - 1560, roughly) that display no examples of the construction whatsoever; For the remaining years, when exceeding that number, 200 examples were selected (on condition b) per decade.
b. The relative frequency of each verbal form of *[be] + going to* was calculated as a percentage of the total occurrences of just *going to* for that decade, those relative values calculated as percentages of 200 and the respective number of examples taken (See **Appendix A: Tables**).

Measuring the extent of semantic shift

Statistically the examples were examined to determine the proportion of lexical vs. non-lexical meaning (intentional non-action will be regarded as belonging rather to the non-lexical end of the spectrum) and separately afterwards on the basis of the theory we *expanded upon in* **Sections 4.**, **5.** and **6**. For detailed listing of the analysis criteria see **Section 7**.

3. Grammaticalization in context

3.1. A brief history

Some of the first speculations made in the West about the origin of grammar were by philosopher and humanist Wilhelm von Humbolt who proposed a three-stage development schema for languages that happened to correspond to the prevalent contemporary idea about language typology: *isolating* stage (II.), *agglutinating* stage (III.), *inflectional* or *synthetic* stage (IV.), to which later was added a fourth presumed *discourse-pragmatic* stage (I.):

I. ***Discourse-pragmatic stage** (presumed): Denotation of concrete objects; no indication of relationships, which were to be contextually inferred by the listener.

II. **Isolating Syntactic stage**: habitualization of certain order patterns and fixing of word order; blurring of lexical items toward a function more identifiable as grammatical, material moves toward formality; an increase in functional relational specializations;

III. **Agglutinative Morphological** ('cliticization') **stage** – loose affixation of semi-formal words; agglutination, appearance of dyads between a material and a functional word;

IV. **Inflectional / Synthetic stage**: stem and inflectional affixes emerge with both material and formal meanings , semantic bleaching and phonological reduction;

(Cf. Humboldt 1988 [1836]; Harrys and Taylor 1997: 171-84; adapted from H&T 2004: 20)

Later in the 19th century the idea was developed that languages had "decayed" since Classical antiquity and that a highly inflectional state had been the nascent condition of all natural languages (Hakulinen 1961: 67-8; quoted in Hodge 1970: 2). Georg von der Gabelenz (1891: 241-2) was the first to put into words the existence of *two opposing tendencies* that shape grammaticalization: a tendency towards ease of articulation and one towards distinctness. Under the influence of sound change, forms *fade* or *bleach*, thus creating the necessity for new forms to substitute for them. Taking once again Latin as an example: the future suffix *-bo* has evolved from PIE **b*^{h}*wō*, the first-person-singular for of the verb *to be*. It itself later became "worn down" and was substituted by the new periphrastic expression of *videre habeo.* A similar

development can also be observed in Sanskrit where the verbs *tiṣṭhati (√sthā 1P*, 'to stand') and *bhavati (√bhū 1P*, 'to be', 'to become') are utilized in constructions expressing habitual action or progressive aspect, respectively, including, most significantly *gacchati* (*√gam*, 'to go').

In contrast to Humboldt, Gabelenz stressed that these processes of language change are simultaneously recurrent and varying, rather than linear or simplistically cyclical. The first to use the term "grammaticalization", however, and to devote an entire work to it was linguist Antoine Meillet. This new term he used to designate the "development of grammatical morphemes out of earlier lexical formatives" (H&T 2004: 21).

Earlier Indo-Europeanists have discussed the origin of grammatical forms, but Meillet stressed that what needed attention was the study of the *transformative processes* undergone by these forms. In his 1912 article, he laid out the two processes, which, according to him, are responsible for the emergence of grammatical forms: *analogy* (new paradigms are formed through formal resemblance to old paradigms) and *grammaticalization* ("the passage of an autonomous word to the role of grammatical element" (*ibid*. 1912: 131)).

An alternative proposition to that of Meillet would be to assume that the grammatical element is inherent in words and constructions, rather than comprising an innovation, similarly to the sematic one. The internal balance between the two would then shift, with one becoming more *invisible*, rather than *disappearing* at the cost of the other. Evidence for this type of "memory", where semantics are preserved without an overt formal component and then re-emerge at a later stage of language change has been attested in Coptic (cf. Polotsky 1944; see **Section 6.**). As a consequence, should one assume the existence of an evolutionary continuum not only of linguistic forms, but of concepts, these would be less easily recognizable in analytical languages, as there the encoding of the concepts is much more reliant on context and not expressed through inflection – perhaps one of the motivations for the 19th century assertion that context-based languages had "decayed".

Meillet goes further to elaborate that, in order for a form to assimilate, it requires an already existing core of established forms to assimilate into. This argument rules out analogy (in this case referring exclusively to analogy to existing grammatical forms) as a primary source of grammatical forms, leaving that role to grammaticalization instead. As gramaticalization allows

for the development of new forms of linguistic expression, “it changes the system as a whole” (Meillet 1912: 133).

Though, Meillet’s argument begs the question, if we were to expand the notion of analogy from language to the human cognitive processes at large – then the array of types of logic that are possible is not limited to what exists in any language at any one time. Should one assume (as most generativist linguists do) that the language faculty is innate, it still has access and is accessible to other cognitive systems. The expansion of the analogy-making range to the general human cognitive capacity would increase the range of possible variability that later has the potential to emerge and manifest in externalization, where it would become “visible”, whereas, traditionally, this is seen as an expressive value being substituted for a grammatical value (H&T 2004: 23). In **Section 4.** and after, we shall look at how this issue is handled by Cognitive Grammar in particular.

This substitution, in its instantiation as grammaticalization, features what Gabelenz called *bleaching* and Meillet explains as a *loss of expressivity*, which applies to phrases as well as individual words (like in Latin > French: *facere habeo* > *je ferai*; *amare habeo* > *amerai*, etc.) and even, possibly, to the word order of sentences. It is essentially the generalization of meaning, by virtue of which the range of application of the construction in question is expanded. An extension of grammaticalization to word order, however, poses the problem of where one draws the border of the phenomenon. Hopper and Traugott argue against this inclusion (cf. *ibid*. 2004: Chapter 3). Together with the loss of expressivity one can observe a weakening of the phonological form like *cliticization* (Meilet 1912: 139), as it also accounts for semantic developments like that from *wish/desire* to *futurity* and from a periphrastic construction to what is essentially a function word as in Greek ‘I wish that’ (*ibid*. 1912: 145; quoted in H&T 2004: 24):

Thelô (h)ina > thelô na > thena > tha

In the beginning of the twentieth century, the structuralist approach reduced the study of grammatical change to the fringes of the prevailing synchronically-oriented paradigm, whose core tenets were *homogeneity* and the *arbitrariness of language* (H&T 2004: 26). Ferdinand de Saussure, who systematized much of the structuralist thought floating around at that time (H&T

2004: 26), however, himself pointed out that this arbitrariness is limited by *associations* and *relative motivations*. Like word compounding, derivational affixation, and inflectional paradigms – much the same argument was used by Meillet to introduce the concept of grammaticalization. Saussure viewed grammar as "*the force that restricts arbitrariness before it can collapse into chaos*" (Saussure 1986[1922]: 130; [my emphasis]).

The principle that is involved in ensuring arbitrariness stays under control is *iconicity* – "the property of similarity between one item and another" (H&T 2004: 26). The philosopher Charles Pierce was the first to make the distinction between *imagic iconicity* (the degree to which things resemble one another) and *diagrammatic iconicity* (a systematic arrangement of signs, which resembles the relationship between its referents) (Pierce 1931: Vol2. Part 227; quoted in H&T 2004: 28). A famous example of a diagram is the narrative sequence of the famous phrase *veni, vidi, vici*, in which the order of utterances mirrors the order of actions, the linear sequencing standing for chronological order. Another example are social distance expressions where the utterance reflects the relationship between the interactants in society. Hopper and Traugott further give the example of the sentence *fire engines last night not have sleep* being taken to mean *I couldn't sleep last night because of the fire engines*, claiming that, in a language utilizing such a construction, the subject is not really a subject, but a noun phrase loosely related to the verb. (H&T 2004: 27-8). Li and Thompson call this 'not-really-a-subject' a *topic* and suggest that a subject is its grammaticalized form (*ibid*. 1976: 484) – i.e. its relationship to the other elements in the sentence is made more explicit.

Givón (1979: 209) proposed a fluid definition of parts of speech. He positioned them on clines from *loose* to *tight*, with movement generally in the direction of the latter. He also proposed a path of grammaticalization of the type (ibid. 1979: 209):

Discourse > syntax > morphology > morphophonemics > zero

C. Lehmann's *Thoughts on Grammaticalization* (1995) set out parameters for the measurement of degrees of grammaticality synchronically and diachronically. Three parameters are associated with each of Saussure's two axes: paradigmatic and syntagmatic.

1. the *weight* or *size* of an element (*ille* (Fr. 'that') is heavier phonologically than later French *le; go* as a verb is heavier semantically than the future marker *go*, etc.).
2. "the degree to which an element enters into a cohesive set of paradigms; e.g. Latin tense is paradigmatically cohesive, whereas English is not" (H&T 2004: 31).
3. the freedom of selection for an element (syntactic rules of constrainedness may apply)
4. the structural size of a construction *scribere habeo* (Lat. 'I will write') Is longer and weightier than *scriveró* (It.).
5. the degree of bonding between elements.

   Clause > word > morpheme > affix (Lehmann 1995: 154).
6. the degree of mobility: earlier both *scriber habeo*, and *habeo scriber* could be used,later the order was fixed and the construction shortened. > (suggests a need for an increased fixedness across the syntagmatic axis).

(adapted from H&T 2004: 31)

Contrary to Lehmann, some scholars hold the view that:

> if a form has not become semantically "bleached", "obligatorified" and bonded, then it has not undergone grammaticalization […] but […] such changes are less than categorical. Since historical processes are ongoing and […] not deterministic, we will only see […] grammaticalization […] in progress, and therefore such claims [(as in the above sentence)] are suspect.

(Heine and Kuteva 2002, quoted in H&T 2004: 32)

In his *The Future in Thought and Language,* Fleischman states that morphology, syntax and semantics "all interconnect in ways that lead to patterned, non–random change [in language]" (H&T 2004: 32; cf. Fleischman 1982), though this is not further elaborated.

> Traugott (1982) suggested that there are semantic/pragmatic factors that lead to the unidirectionality of change, specifically tendencies leading from concrete meanings to more abstract ones, and in particular to ones grounded in the speaker's assessment of connections between propositions.
>
> (H&T 2004: 33)

Thus, Hopper and Traugott conclude that "synchronic syntax and morphology could be seen as the temporary - and not necessarily stable - reflexes of ongoing shifts" (H&T 2004: 29). From

this we can conclude that what is needed is a more dynamic approach to the analysis of language structure. The social nature of language makes it inherently diverse and that must be taken into account when studying it:

> Language is a social institution, and one of its important functions is to maintain social networks and sustain interest in a verbal interaction. […] Part of the human ability to understand and use language is the ability to reason from the form of what is said to the intent of what is said, as well as from the string of sound s that occurs as input to the structure behind that input.
>
> (H&T 2004: 42)

The two crucial mechanisms that enable complex forms of communication to emerge at all are *metaphor* and *metonymy*.

3.2. Metaphor & metonymy

Humans use metaphor and abstraction to organize the world (Heine, Claudi & Hünnemeyer 1991: 41*)*, though, for the purpose of the current work, let us expand that statement to include what we shall term the *operationalization* (or *narration*) of *reality*. The discussion of these two (and other related) concepts through the phenomena of grammaticalization will touch (or does so already in the current chapter) upon the following problems (taken from Heine, Traugott and Givón 1991; summarized in H&T 2004: 34), depending on the relevance to our central topic:

(a) Can diachronic and synchronic approaches to grammaticalization be reconciled, or is a new approach required?
(b) Is grammaticalization a continuous or discontinuous process?
(c) To what extent is grammaticalization the result of discourse-pragmatic forces?
(d) What constraints are there on the choice of concepts and forms serving as the input to grammaticalization?
(e) When can incipient grammaticalization be recognized?
(f) Is grammaticalization a unidirectional phenomenon?
(g) What phenomena in language are not examples of grammaticalization?

(Heine, Traugott and Givón 1991; summarized in H&T 2004: 34)

It is not only important to see the systems of rules present at any one moment, but the tendencies for change inherent in those systems. The patterns these changes formed in the past can more easily be inferred from a diachronic perspective. The properties of the phonological, syntactic, semantic etc. systems would indeed be inherent in a single synchronic sample, but it would be that much more difficult to discern them. Also, any resulting categorisation would pertain exclusively to that synchronic sample and not necessarily to what came before. However, the iterations of these tendencies are usually recognizable in particular instances of a language's historical development, even though the results these tendencies produce may differ (see **Section 3.3** for examples). Such recurring tendencies grammaticalization hint at the possible universality of some deep underlying principles of cognition[5].

There is evidence for the existence of a conceptual, as well as a formal continuum in human language. These conceptual mechanisms functions with a set of metaphorical tools, which are more fittingly called guidelines, rather than linguistic rules:

> [v]arious relatively abstract concepts such as time, cause, manner, personal quality, and relationship need to be expressed; more concrete linguistic "vehicles" are pressed into service to express them. Thus, time concepts are typically expressed in terms of more readily apprehensible space concepts[…] mental activities like thinking are expressed in terms of physical activities […] and so on. Those metaphorical abstractions that lead to the emergence of new structures, e/g/, adverbials or prepositions, are among the main kinds of cognitive processes that lead to grammaticalization.
> (Heine, Claudi and Hunnemeyer 1991: 41-5; summarized in H&T 2004: 33)

This view is certainly not unique. Bybee, Perkins and Pagliuca view grammaticalization's nature as both belonging to the formal *and* the semantic domains, and argue for the existence of *grams*, or so-called *grammatical morphemes*, which:

> tend to be polysemous in similar ways across languages, and to undergo similar paths of development as a result of human discourse interaction "they reflect the metaphorical processes that are based on human cognitive make-up, and they reflect the inferences that humans commonly make when they communicate" ([*ibid*. 1994: 149;] 302).
> (H&T 2004: 33)

[5] A thought not necessarily exclusive to UG's principles and parameters paradigm.

The phrase “when [humans] communicate” implies much more than verbal interaction - all cultural practices are a form of communication and ritualization plays a crucially central role, as was pointed out by Haiman in his analogy (cf. Haiman 1994), where he

> drew a parallel between actions that become ritualized through repetition and linguistic expressions that lose their novelty and become automated through frequent use, thus pointing out close similarities between language change and change in other aspects of human communicative behavior.
> (H&T 2004: 35)

Thus, it is common to encounter a “tendency to see grammar and grammaticalization in terms of collocation of specific items, rather than generalized changes […]” (H&T 2004: 35). For example,

> Bybee, in a number of publications (e.g. Bybee 2001[…]) reasoned that much change, especially that relevant to grammaticalization, was a strictly mechanical matter, the slurring together of frequently juxtaposed forms. Since it is particular words, not abstract classes that undergo this development, Bybee too saw change, and therefore structure itself, as beginning in specific contexts.
> (H&T 2004: 35)

This would seem to suggest that among the two axes of Saussure, the *syntagmatic* predates the *paradigmatic* one. If one assumes extreme frequency has been confused with paradigmaticity, it may well be that a syntagm and a paradigm simply lie at the two ends of a single gradient. Should one assume this to be true, a theory of a top-down, rule-based nature of language, much like that common to generativist frameworks, is automatically rendered insufficient, since syntax is the quest for perceptual monostability of language on the meta level. An example of this would be viewing language change as replacement: “[…] insofar as language is characterized by an abstract set of rules independent of language users, the rules (or set of rules) can be said to change” (Hoenigswald 1966; page citation needed). Furthermore, it may be a bit of a stretch on Bybee’s behalf, to conform grammaticalization to the realm of the strictly mechanical “slurring together”, especially seen as there is evidence that changes first occurs on the semantic level, that only later manifest through formalized grammaticalization and phonetic reduction, and is not a process exclusively reliant or limited to contiguity of forms and their frequency of co-occurrence, as there can exist grammaticalization without formal change, a good example of which are auxiliary verbs.

Some corpus-based studies (for example Ochs, Schegloff and Thompson 1996) have made the tantalizing proposition of a blurred line between grammar and conversational usage. The description of grammaticalization's many facets however, has meant a restriction to languages like English, German, Japanese, etc., for which there are large amounts of data available. For example, on the basis of such data, Traugott (1995) proposed a grammaticalization cline for English of the type:

Clause-internal adverbial **>** *Sentence Adverbial* **>** *Discourse Particle*

H&T argue that discourse markers are indeed grammatical units similar to *topic* and *focus*[6] (*ibid*. 2004: 36-7). This assumption, however, entails that data in small-scale, generally understudied languages, like those of disappearing hunter-gatherer societies, are largely overlooked by mainstream academia, and there is no sensible argument, why the phenomena that may be discovered in them would be of lesser significance than those pertaining to better studied languages. An argument in favour of this would be the underlying principle of metaphors themselves: the quest for the solution to a problem:

> grammaticalization can be interpreted as the result of a process which has problem-solving as its main goal, *its primary function being conceptualization by expressing one thing in terms of another.* This function is not confined to grammaticalization, it is the main characteristic of metaphor in general.
> (Heine, Claudi & Hühnemeyer 1991: 150-1; [my emphasis])

3.3. Reanalysis

Hopper and Traugott stress the importance of emphasizing that no elements are obligatory and processes need not necessarily take place or run until completion. They outline the following list of topics, with which grammaticalization research occupies itself:

What motivates change?

What mechanisms lead to grammaticalization?

[6] Although earlier we encountered the argument that a subject in a sentence can be seen a grammaticalized topic.

What are its ”paths” of progression through time?

What are its end results?

They further go on to define the two formative processes responsible for grammaticalization: *reanalysis* and *analogy*:

Reanalysis is the modification of grammatical, syntactic, morphological and semantic properties of forms

Analogy is the modification of surface manifestations; it itself does not affect change.

(H&T 2004: 39)

The two processes can be exemplified by the following development in English: Old English *cild-had* (child + condition; rank) - “childhood”, and *biscop-had* – “bishophood” are built on the same compounding principle. In Modern English, however, the first element no longer necessarily has to be a person or position, like in the example of words like *falsehood* or *childhood*, where the word boundary in the compound has transformed into a morpheme boundary.

Contrary to more formal paradigms (as we saw above in Bybee and Hoenigswald’s arguments), where the system ca only ever change in a top-down motion with either the rules changing first or the process being entirely dependent on the frequent syntagmatic co-occurrence of forms, in CG “change [first occurs] in the structure of an expression or class or expressions that does not involve any immediate or intrinsic modification of its surface manifestation” Langacker (1977: 58), by which it is meant a change in the meaning – a *reanalysis*. This once again implies a meaning change preceding formal change. “From this perspective, *reanalysis* involves a change in constituency [(*rebracketing* of elements in certain constructions)], hierarchical structure, category labels, grammatical relations, and cohesion (type of boundary)” (A. Harris and Campbell 1995: 61 cited in H&T 2004), generally resulting from the fact that speaker and hearer may understand a form to have different internal structure (for example: [*hamburg*-[*er*]] vs. [[*ham*]-[*burger*]] (H&T 2004: 50)). This, as we saw exemplified above, is probably the first step towards the grammaticalization of periphrastic expressions. Let us take the case of our central example: the *be going to* construction. From *be*

going to (be + main verb + progressive aspect + purposive function) to *be going to* (tense marker). The degree of cohesiveness itself undergoes change, where previously separable morphemes becomes "fused", as in the case of *be going to* → *gonna*. In turn, the question arises what the root cause of this change in cohesiveness, that is, "opacity" or the potential for ambiguity may be? Ambiguity is a necessary prerequisite that allows for simultaneous preservation and innovation in analysis. The abduction in such cases is the different analyses by the speaker and the hearer of the same form, as a result of which the "law" deduced from it is also different: the surface string is the same but the "rule" differs (H&T 2004: 51-2). Hopper and Traugott illustrate this :

> [T]he verb *habere* 'to have' in Latin was a verb of possession and belonging. It was a transitive verb and could originally introduce a nominal object. In many contexts it did not have the strict meaning of possession, but rather had a more general locative meaning of 'belonging, being in the presence of,' etc. (for the cross-linguistic interrelationship of locative-possessive-existential, see Lyons 1968: Clark 1978: Heine 1997: Chapter 5).
> (H&T 2004: 53)

In Latin *habere* could be used in conjunction with a gerundive, which "itself once expressed obligation", to express a sense of obligation or futurity. It has been suggested that the use of *habere* + *gerundive* was substituted by *habere* + *infinitive*, commonly with verbs of speaking (H&T 2004: 53). This change is summarized in Table 1:

Table 1. Rebracketing and phonological reduction in Latin.

Original form: [[*gerundive*] + *aux.*]	Secondary form: [[*infinitive*] + *aux.*]	Reanalysis: [*infinitive* + *aux.*]	Tertiary form: [*V + future suffix*]

[[dicendum] habeo] -> [[dicere] habeo] -> [dicere habeo] -> [dicebo]

The above example shows that in such cases a phonological reduction only occurs when two elements are on the same level". Therefore we can conclude that where such reduction has occurred or is occurring, then the elements in question very likely fulfil this criterion. But being "on the same level" apparently extends beyond the grammatical interrelation of forms. In the above Latin example, it proved to be crucial for the two forms to coalesce in the particular order that they did, as Latin's highly morphological nature allows for more syntactic freedom and

constructions such as *habeo dicere* would not have been considered ungrammatical, yet in Sardinian (where the said reverse order is preserved) no such change occurred and the phrase remains periphrastic. Thus, it is not obligatory for a change to take place, but further study is needed to determine whether the syntagmatic arrangement of the forms must coalesce in a particular way that allows for the phonological system of the language to make a reduction or not. In this particular case, perhaps, it is so that IE languages tend to develop suffixes, rather than prefixes when it comes to inflection and, whenever the word order favours pre-position, then it is reanalyzed as a fixed phrase, rather than as an inflectional prefix. "Once the reanalysis had occurred, further changes were possible [though not necessarily obligatory]. These include fusion across morpheme boundaries, phonological attrition, and semantic reanalysis to a future-tense marker […]" (H&T 2004: 54-5), which is what we just observed in the example above. Or, perhaps, it is for reasons of efficiency (which we will also discuss further in Chapter […]):

> There are great difficulties in defining the notion of economy in anything like rigorous terms. We know very little about what does and what not take "effort" to in producing or interpreting utterances, and still less about what would constitute economy of mental effort on either speaker's or hearer's behalf, although we probably know more about simplicity of perception than of production. Nonetheless, there seem to be useful, if sometimes intuitive, notions involved.
> (Hopper & Traugott 2004: 72)

3.4. Mechanisms of Reanalysis and Analogy

There are several logical "paths" a reasoning behind a transfer of meaning can take. Induction and deduction, the two most common types of logic, do not account for indirectness, expressivity or change, however. Deduction is a conclusion drawn from existing premises – there is no new information. Induction is a conclusion drawn from observation of available data. Ab-duction, however, is even less concrete than induction, "Abduction proceeds from an observed result. Invokes a law, and infers that something may be the case. E.g. given the fact that Socrates is dead, we may relate this fact to the general law that all men are mortal, an guess that Socrates was a man" (Andersen 1973: 775). For language a third type is needed: abduction (first described by C.S.Pierce 1965 [1931]). "Types of reasoning are exemplified by three propositions that constitute a syllogism":

The Law (e.g. All men are mortal)

The Case (e.g. Socrates is a man)

The Result (e.g. Socrates is mortal)"

These can form three different types of logic:

Deduction: The Law => (applied to) The Case = (predicts) The Result

Induction: The Case(s) + The Result(s) => (establish) The Law

Abduction: The Result + The Law (its origin is unimportant) => form The Case

(summarized form H&T 2004: 42)

Abduction appears to be the best-suited logical type for explaining how human beings construct meaning (should we assume meaning is really "constructed"). It involves approximation and is inherently flawed, because the flaw is in the law, not in the premise or the logic of the result. "[Abduction] is constantly tested out by the process of induction (the matching of a hypothesis to the data) and by deduction (the production of new utterances based on the hypothesis). […] Even If the premises are true, the conclusion need not be so." (H&T 2004: 42-3) – yet another argument displaying the crucial importance of the capacity for abstraction. It should be noted, however, that this kind of reasoning itself is based on the assumption of there being the concrete existential categorical entities of *The Law*, *The Case* and *The Result*.

Since these three ways of constructing a syllogism are central to language change, which, within the generative paradigm, is considered to only ever truly be possible at the initial language acquisition stage. This is termed *internal change* – change brought about by child innovations while learning a language within a relatively homogenous community. But, who is the language learner? A prevalent trend in 20th century language studies has been to assume that this refers to young children, a view taken up and elaborated on by the generative approaches, where it is regarded that true language change can only ever occur at the acquisition stage, and any outside sociological and demographic factors have only an overseeable impact. Recently, however it has been accepted that the innovations made by

adults also have a perceptible impact on language change (cf. Labov 1994 and Ravid 1995) and it appears that young adults also have a significant impact on language change. “The role of the “developmental imperative” among adolescents to display knowledge of and use the linguistic marketplace appears to be especially important in maintaining and replicating innovations across communities (see Eckert 1988, 1997, 2000, Milroy 1992, Chambers 2003, Labov 2001)” (H&T 2004: 44-5).

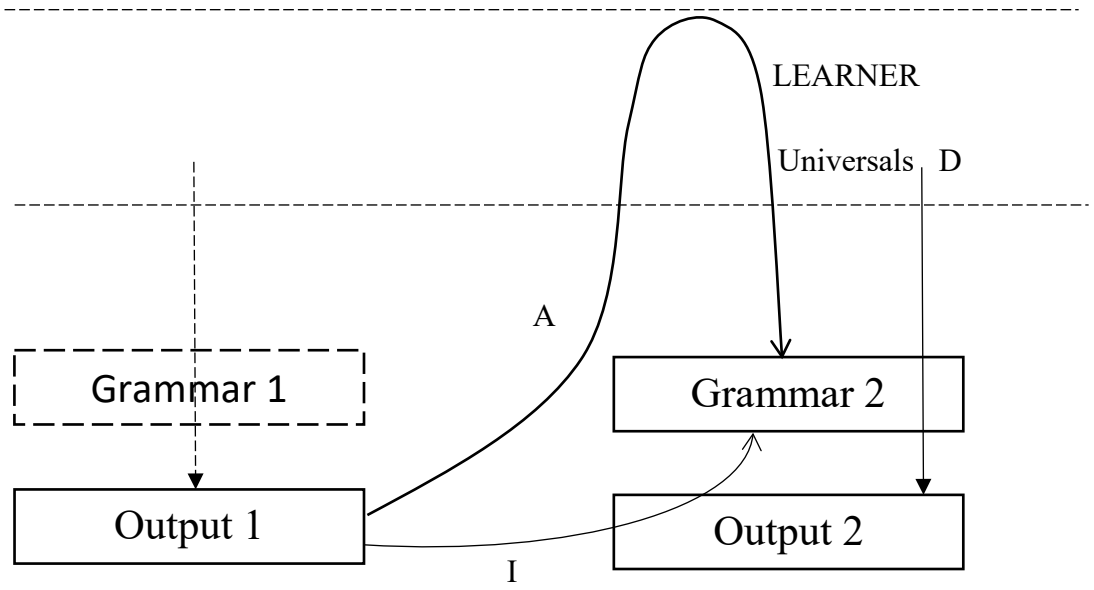

Figure 1. Induction (I), Deduction (D) and Abduction (A) in the context of Language acquisition and change H&T 2003: 41

The crucial difference between formal and other approaches is the distinction between *elective* vs. *instructive disposition* – a selection by inherent internal criteria *versus* one selectable and modifiable by external stimuli. We already mentioned that in formal views of language, change can only ever truly occur at the acquisition stage.

> [A] child is conceived as an LAD (Language acquisition device), a processor of systems, a kind of passive logic machine with a very rich language-specific genetic endowment. [..] The [generative] hypothesis is that human beings are born with a set of constraints on what possible language structures can be, and ways in which they can vary.

(H&T 2004: 45)

Changes are simply a selection of different options from a restricted predetermined set (for principles and parameters for change (cf. Lightfoot 1991: 2). Contrastive to the usage-based model, the generative one describes such processes as the result of structurally highly-positioned change in the system, which is only possible at the early stages of language acquisition in childhood.

The formal paradigm bases its conclusions on an idealized view of language, on the competence of the idealized native speaker. An idealized language is like a "coding device in which ready-made ideas are converted into symbols that serve one and only one function. Here a principle of "one form-one meaning" operates, and every utterance conveys an unambiguous message" (H&T 2004: 40-1). For the sake of contrast, let us briefly review a summary of the principles of UG.

3.5. Gradual change

We need to distinguish between change and the spread of that change. A change taking place does not necessarily entail that a similar process has taken the same social route of reanalysis or reuse (H&T 2004: 46). The generative view stresses that there is no such thing as grammars of separate languages, rather there are only grammars of individuals. And regard expressions of the type of ""change in the grammar of X" […] essentially [being] "a convenient fiction permitting the statement of certain generalizations and ignoring certain types of variation" (Lightfood 1991: 262) – basically, "language change" within the formal paradigm comprises the spread and aggregation of gradual changes across a population:

> each and every step in such a development is an innovation, not only the initial act, through which a new linguistic entity comes into being. It is through innumerable individual acts of innovation – of acceptance, adoption, and acquisition – that any new entity gains currency and enters into competition with traditional entities in the usage of a linguistic community.
> (Andersen 1989: 14)

Andersen's proposition above seems at first glance logically fool-proof. However, we need to account for the fact that it is based on the premise of language being founded upon principles of

discrete infinity. It is extremely difficult thing to attempt to prove empirically, that the meaning encoded in each utterance of a certain phrase within a population each forms a separate, discrete "link" in a chain of change. We will treat grammaticalization phenomena as a continuum, a gradient, rather as separate entities[7].

Looking at language change as "first example of change X" following from thinking of change as change in the grammars of different individuals is another emanation of the premise of discrete infinity. Changes from lexical to grammatical forms have a tendency to occur gradually – i.e. they do not present as a sharp substitution of A with B – there usually tends to be an intermediary stage where the competing forms coexist – this is called "layering" (Hopper 1991; quoted in H&T 2004: 48). Such coexistence can last centuries, as in the case of English *be going to*, or emerge and fall out of use quickly as Middle English ""regressive" aspectual verbs *stint* and *fin"* (H&T 2004: 49).

An example of diachronically long change can be observed in the OE *wolde* (past tense of *will*-), which shifted from a verb meaning "intend" to an auxiliary expressing futurity followed by an infinitive. However, in OE, in examples like "*Þa Darius geseah þæt he overwunnen beon wolde*" (cf. 880 Orosius 3 9.128.5), the action is not the agent's intention. "a former obligatory constraint on the use of will- is no longer operative" a.k.a. indication of volition. "the meaning change exemplified here is consistent with rule change" (H&T 2004: 49), as in the case of *let us -> let's* or *going to -> gonna*, *got you -> gotcha*, *want to -> wanna*, etc.

Each person and each speech community stand at the centre of their own sphere of comprehension, loosely delineated by "the grammar of the speech community" (Weinreich, Labov, and Herzog 1968: 188). This sphere may be:

- The grammar of the individual
- The grammar of the immediate speech community (temporal and coexistential proximity is crucial)

[7] To give a related philosophical example from the Madhyāmika system: Nāgārjuna states that *prapañca* (Skt. "verbal proliferation", in this case referring to spoken language and the cognitive process of labelling) does not reflect what is real, it can be, however, useful for the purposes of instruction (cf. Saito 2014).

- The grammar of the wider speech community (regional variations within a language) – after a certain "distance" – no longer intelligible. This is influenced by both socio-political and geographic and climatic factors. The more connection – the bigger the blur.

Radiating outwards from the centre (a person, group, or a collection of groups) would be a gradient of intelligibility. This may be pragmatic, lexical, semantic, grammatical or syntactic, or a combination of the above, assuming the speakers we compare to belong a similar or at least related cultural background. The two far ends of that sphere would represent the fuzzy border of intelligibility drawn by factors such as intelligence, language aptitude, knowledge of other "languages" or socio-pragmatic contexts. Thus the closer an individual is to the centre of intelligibility of others, the higher that percentage will be. It is almost impossible to achieve perfect intelligibility however, as a result of high degrees of individual variation.

Let us look at the following example: one acquires phrases by imitation because they are used by someone he likes or they are liked by the community or represent a social status or they admire someone who uses them and want to emulate them. This would be an example of the "social use of variation" (Eckert 1999: 11).

Viewing the process of grammaticalization as a gradual shift within a social context entails two things:

a) It has eventually spread from the individual and has been accepted by a group
b) The constraints of the former linguistic environment are no longer obligatory

(H&T 2004: 48)

3.6. The Linguistic Cycle

> Although there is no full agreement on definitions of grammatical forms, in general it is possible to speak of a continuum of bonding between forms that has a looser relationship between forms (i.e., independent words) at one end and a tighter relationship (i.e., grammatical affixes attached to stems) at the other.
> (H&T 2004: 4)

The virtual path that grammaticalization follows is generally referred to as a 'cline' (here the word cline implying directionality), which is attested both cross-linguistically and diachronically.

From a synchronic perspective, these paths follow so-called *grammaticalization channels* composed of *grammaticalization chains,* made up of the individual forms appearing at each stage, shifting from a content item to a more formal element. Furthermore, these phenomena are not homogenous, which results in *phenomenal clusters* at certain points along the cline, which are somewhat arbitrary. The border between lexical and grammatical, however, is also unclear and disputed. A general agreement exists that grammaticalization roughly follows this pattern of fluid categories:

*Content item → grammatical word → clitic → inflectional affix *→ bleaching*

Although there are certain language-specific violations of this rule, it is generally accepted to occur from left to right. "Generally, [the changes] involve a unidirectional progression in *bondedness*, that is, in degree of cohesion of adjacent forms that goes from loosest 'periphrasis' to tightest 'morphology'" (H&T 2004: 6-7; [my emphasis]). When, however, the morphological form becomes obsolete, then it is gradually substituted by new periphrastic structures – this is what is termed *renewal* (as in the evolution of future forms from Pre-Latin, through Latin to French, as we will see below). This cyclicity from grammaticalization to periphrasis and back again is what is termed the *Linguistic Cycle* (cf. Hodge 1970). With some differences we are going to discuss briefly below, it was argued that languages tend to circulate between a predominantly morphological form (*sM*) and a predominantly syntactic form (*Sm*), where "s" stands for *syntax* and "m" for *morphology*. The dominance is indicated by capitals.

On the basis of the past century and a half of linguistic studies, the following hypothesis of the existence of the linguistic cycle of most Indo-European languages emerged:

Purely hypothetical pre-pIE 1	**Sm*
Purely hypothetical pre-pIE 2	**sM*
Proto-Indo-European	**Sm*
Classical Languages	*sM*
Prsent-day English, etc.	*Sm*

(Hodge 1970: 1)

Jespersen (1922: 425) proposed a modified version of this sequence, where the initial stage was one of particularly complex morphology (**sSC*), but also argued that there is no evidence for an actual cycle, since the available data (i.e. the tendency of IE languages to reduce the number of cases they employ) only points to a development from the overly morphological to the predominantly syntactic and elaborates that: “primitive linguistic units must have been much more complicated in point of meaning, as well as much longer in point of sound, than those with which we are most familiar “ (Jespersen 1922: 425; see below). To which Hodge remarks that “known history represents only the last *Sm* and *sM* above. All others are based on inference […]” (ibid. 1970: 2). Thus the following sequence is rendered purely hypothetical:

With very complex morphology	**sSC*
With complex morphology	*sM*
Predominantly syntactic	*Sm*

First let us look at a counter-example. Finno-Ugric languages have increased their number of cases, contrary to what is observable in Indo-European languages. “Proto-Fino-Ugric is thought to have had some five cases, of the modern languages, Lapp has eight, Mordvin ten, Cheremis thirteen, Zyryan eight, Votyak fourteen, Vogul six, Ostyak six to eight, Hungarian twenty-one” (Hakulinen 1961: 67-8). This serves as contra-evidence to the classical proposition that IE languages tend to “decay” from an inflectional “zenith” to a more syntactic “degraded” later stage (Hodge 1970: 2).

As result of proto-Uralic reconstruction done by Ravila (1941: 122-3) pointing towards merges of morphemes in the far-flung past as evidence supporting the argument for a *Sm -> sM* sequence of development."[T]he distinction of verbal and nominal inflection is not original and […] the whole sentence-architecture of the Indo-European, with its characteristic division into subject and verbal predicate, is a secondary growth" (Oertel 1906: 61).

Jespersen unsuccessfully tried to present an example of the whole “”linguistic cycle” within Indo-Hitite, as it, with its relatively light morphology does not fulfil his *sCM** condition for an PIE-ancestor. It is as of yet unclear, whether Hittite is simply an already early de-morphologized form, or, alternatively, if it represents an even earlier *Sm* stage. However, even though Uralic and Altaic present cases to support the argument in the opposite direction, a full

cycle is still unattested. Chinese presents an example of a mild cycle, from somewhat morphological, through predominantly syntactic to somewhat morphological again (Hodge 1970: 3)

This tendency of *renewal* is evident in more familiar languages as well. The future form of 'we will sing' (2nd P. PL. Ind. Spl. FUT.) has moved from PIE **kanta bʰumos* (periphrastic), through two competing forms in Latin *canta-bimus* or *cantare habemus* to modern French *chanterons*, which is nowadays tending to be replaced by *nous allons chanter*, literally 'we are going to sing'. It often occurs that when two constructions such as these are competing synchronically then tend to be separated from one another by a distinction between pure futurity and intentional non-action, with the tendency being that the periphrastic one prevails (H&T 2004: 9; see **Section 6.2**). *Intentional non-action* here being taken to mean *a non-action that has consequences and is explicitly intended*; it is "dynamic and clearly separate from inaction" (Kühn et al. 2009: 542)[8].

Another notable example of bleaching and then renewal, possibly the only one with diachronically sufficient documentation to warrant a reasonable speculation, is Egyptian. In its six stages, Archaic Egyptian, Old Egyptian, Middle Egyptian, Late Egyptian, Demotic and Coptic, it displays evidence affirming the "linguistic cycle" hypothesis. Namely, this is to be seen in the evolution of the verbal system from synthetic suffix conjugation in Old Egyptian, through an analytic one in Late Egyptian to, once again, a synthetic verb of a prefix conjugation in Coptic. An example even structurally similar to the English *be going to*. "Just as in present day English the auxiliary has the inflection. The verb 'to be' [also meaning 'to do': (*r*)] is used in many different constructions" (Hodge 1970: 3):

[8] "Intending not to act seems to share essential features with voluntary action, namely the property of binding with subsequent effects that are perceived as consequences of the actions or non-actions. [...] [T]hose binding effects are specific for different kinds of voluntary non-actions. This leads us to conclude that cognitive representation of non-actions contains the information which kind of action is omitted. We propose that this cognitive representation of an omission of an action bears more resemblance with the representation of an alternative action as compared to the actual action that one refrains from. Furthermore our data suggests that the representation of non-action is not achieved by an inhibition of the omitted action but by a facilitation of alternative action." (Kühn et al. 2010: 16)

Middle Egyptian[9] (after Hodge 1970: 3):

wnn	*ʾrʾ(w)*	*mytt*	*r ʾ*	*št-čn ʾn*	*m(y)*	*xt*	*čn*
3SG –FUT-be	PTCP-do	like	do-INF	property-UND	by-INST2SG	PP-TEMP-after	

‘The like will be done to your property by those [who come] after you.’

ʾrhrk	*xr*	*ʾr*	*w3ḥ-tp*	*m*	*X*
2SG –OPT-be	ALL	do-INF	PTCP-multiply-CIRC	by-INST	X

‘You are to do multiplying by X.’

Coptic (after Polotsky 1944: 4):

sbte-pe	*-k*	*šag^{y}e*	*tar*	*-ou*	*-sotm*	*ef*
2SG-IMP-prepare	2SG-POS	speech	CAUS	3PL	hear-3PL	3SG.UND

‘Prepare your speech and the result will be that they hear it.’

‘Finalis’ verb form:	*tare-*	*-f-*	*-sōtəm*
	conjugation base	SUB	INF

For **Late Egyptian**, a *Sm* structure is easily established. Thus, one arrives at a complete cycle:

Old Egyptian:	*sM*
Middle Egyptian:	*Sm*
Coptic:	*sM*

Hodge goes further to elaborate, that despite the lack of vowel markers, Egyptian presents a much better recorded case than Chinese, as the ancient Oracle Bone script is composed of ideograms, where the meaning is preserved, even though the phonetic value may have (and most likely has) changed. It further becomes clear, that some forms are central to the recognition of the cyclical phenomenon, most notably the representatives of the verbal system. Such diagrammatically iconic constructions have a very similar semantic make-up, observable in the types of constructions that tend to substitute each-other. The variation is between an inflectional form and a periphrastic form as in German *er hört* vs. *er ist beim Hören*. *er tut Hören*

[9] N.B. Egyptian hieroglyphics contain no vowel markers.

etc. (Erman 1933: 5). One verbal form that is especially prollific at the Proto-Afro-Asiatic stage was the Old Perfective, as in Egyptian *sǧmk*ˀ 'I in a state of hearing', Akkadian *parsāku* 'I in a state of being divided'. However no other constructions are paralleled in other Afro-Asiatic languages, leading to the conclusion that the PAA-stage was probably a *Sm, from which "the various morphologies to be found in [its] daughter branches [emerged]" (Hodge 1970: 5). In the end, there is no evidence of clear "stages" that are purely syntactic of purely morphological as envisaged by Bopp. There is, however a clear, verifiable pattern at least in several large language families, certain elements of which can survive thousands of years of language change (like the Egyptian morpheme *k* - "you"). (Hodge 1970: 5)

> The morphology is frozen syntax: sooner or later doomed to be replaced. There is, however, a syntactic component that remains and that creates new morphology. What is the nature of this 'constant'? […] Originally free forms or largely free forms the chronomorphs are still readily identifiable in the next stage. They remain easily segmentable (as in Turkish) for some time, but then become, with phonologic change, much less subject to analytics (cf. Sanskrit and Latin).
> (Hodge 1970: 6)
>
> The final stage of complex morphology includes much that is totally obscure unless the history is known. This obscurity pertains only to the *chronomorph* itself, as the semantic motif 'lost' by the form would normally have been kept (not restored) by the syntax (cf. Polotsky 1944:96).
> (Hodge 1970: 5; [my emphasis])

It would not be such a jump of imagination to take the hypothesis of the linguistic cycle and the evidence of 'invisible' persistence of semantic motifs despite formal change and to infer that the opposite process is also very likely, which would make considerable sense, taking into account the general tendency that certain languages shift between a predominantly formal and a predominantly syntactic character. In other words: both syntactic and morphological features can be said not to disappear, but become instead "visible" or "invisible" in the manifestation of a language. Similarly, it can be argued, that there cannot possibly exist a case of purely hierarchical structure in language, as claimed by the Generative tradition, nor for that matter, a purely linear one. Sometimes, however, the argument surfaces, that the set of possible language phenomena is constrained within the boundaries of its currently observable variations.

> Indeed, what has come to be called the "uniformitarian principle" (Labov 1974, Romaine 1982) is an essential ingredient in most work on historical linguistics. According to this principle, the linguistic forces that are evident today are in principle the same as those that operated in the past. Operationally, this means that no earlier grammar or rule may be reconstructed for a dead language that is not attested in a living one. There is no reason to believe that grammaticalization did not occur in languages spoken ten thousand years ago in much the same way as it does now.
> (H&T 2004: 50)

This view, however, displays how reductionism can be its own epistemological adversary. For another small aside - if one accepts the view of language as an "organ" then one must also ascribe to the ability of biological mechanisms to evolve and adapt. This is not a questioning of UG, but rather the different "programmes" (the different I-languages) that run on it. After all, accepting only what is observable as all that is possible is itself an abduction. Naturally, what came before may have been more diverse than what is (though this view should not be confused with the idea of language "decay").

> Th[e] very process of innovations itself typically based on a principle of economy, specifically the economy of reusing extant forms for new purposes (Werner and Kaplan 1963; Slobin 1977). To return to our example of the extension of *be going to* to the intentional future, the directional phrase has been reused; it is more substantive (phonologically longer) and therefore more accessible to hearers than, e.g. 'll or even will. As a future it is also more based in the speaker's subjective attitude and perspective on what is being talked about than is its locational counterpart.
> (Hopper & Traugott 2004: 73)

In any case, the discussion of actually constitutes language is made even more problematic by the fact that there is not even a uniform terminology agreed upon in linguistics. This is a problem encountered both between scholars and between different schools. It is not by chance that we say "I do not understand what you are saying, it sounds like [insert name of random, unintelligible foreign tongue to the speaker here, proverbially Chinese] to me" – just as in the Tower of Babel story – they literally speak different languages. The crucial question to ask at the end of this chapter is: Why do inflectional forms get substituted with periphrastic ones and *vice versa*? The general direction of consensus seems to be that *meaning change* drives *formal change,* in other words *syntagmatic frequency* triggers *paradigmatic reanalysis*, followed by

phonological optimization. Metaphor and metonymy are ways to operationalize and process something that would otherwise be beyond the scope of the system and that is precisely why they are so crucial – they facilitate this process by providing flexibility and efficiency, while still functioning within the structure of the conceptual schematicity hierarchy. In order to elucidate some relevant details of this process, we shall look at some basic tenets of Cognitive Grammar and Conceptual Metaphor Theory in the next three sections, and especially so with a focus on explaining the change undergone by *be going to*.

4. Cognitive Grammar and Conceptual Metaphor Theory

4.1. Basic assumptions of Cognitive Grammar

Firstly, let us begin by briefly examining Cognitive Grammar's fundamentals and how it views grammaticalization. For that a short review of its basics is in order, which merits a direct quote from its founder, Ronald Langacker:

> Like Construction Grammar, Cognitive grammar takes constructions, rather than "rules", to be the primary objects of grammatical description [...]. Grammar comprises regularities of varying degrees of generality - patterns that speakers internalize [...]. Three kinds of devices have commonly been employed in linguistic description: rules, filters, and schemas. These imply different kinds of relationships between specific expressions (e.g. sentences) and the patterns they manifest. [...] CG is highly restrictive owing to the **content requirement**. The elements permitted in a linguistic description are limited to: (i) semantic, phonological and symbolic structures that actually occur as (parts of) expressions; (ii) schematizations of permitted structures; and (iii) categorizing relationships between permitted structures. Thus the only elements ascribable to a linguistic system are [those] which are either part of the primary data (namely, occurring expressions), hence directly apprehended, or else emerge from the primary data by means of the [...] phenomena of schematization and categorization. Ruled out by the content requirement are such elements as filters, purely syntactic primitives (with neither semantic nor phonological content), and derivations from underlying structures. (Langacker 2009: 3)

Permitted are semantic and phonological structures of any size, an order of complexity. These two combined form a *symbolic structure*. Symbolic structures in turn combine to form expressions, from which *schemas* are abstracted (Langacker 2009: 3; see *Firgure 2*).

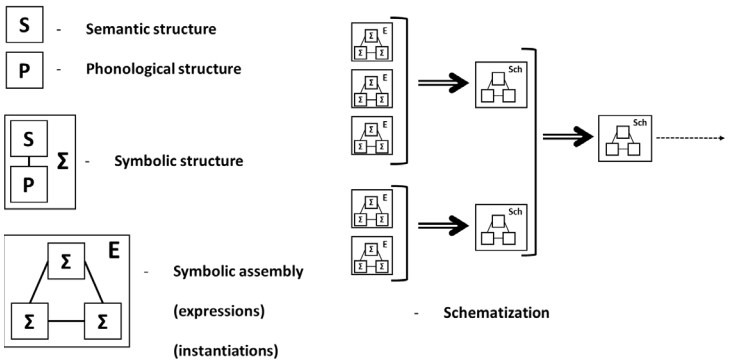

Figure 2. From semantic and phonological structures to complex schematic abstraction (summarized from Langacker 2009: 3-4)

Although it employs a proposition nearly identical to Saussure's of a symbol comprised of a phonological and a meaning unit, it can be concluded from the above passage that CG only operates with positive meaning, though Langacker does not posit this explicitly. As we will see later, this results in a variety of issues. Another element worth mentioning is that, although the structures are nominally abstracted from the real world, for Langacker they do not seem to retain a relation to it (at least schematically), as they do for Saussure. The only contact between "thing" and conception seems to be at the moment of apprehension, about which we will go into more detail below. When one thinks more carefully about it, this assumption functions on the same premise as one of the core axioms of Generative Grammar - that limits are a necessary prerequisite for capacities to exist. In yet another contrast to Saussure, where meaning is negative, i.e. the absence of everything else but whatever is in question, in CG it is presumably used in the same sense proposed by philosopher John Locke, that each unit has a meaning *content*, therefore each part, here understood to be each expression, by virtue of its meaning component, is but a snapshot of a more complex structure from a particular angle, called *profiling*. This is an extension of the observation about schemas we made above. Langacker even labels this the *content requirement* and it is one of the foundations of CG's logic. Both positive meaning and consequent rejection of filters (though this term is not elaborated upon), seem to be ontological assumptions made to fit a certain epistemology.

In the elaboration of the above principles, Langacker goes on to employ three constructs for the purpose of semantic and grammatical description: *profile, trajector (figure)* and *landmark (ground).* "[L]inguistic units invoke the ground and its various facets schematically, as

virtual entities (Langacker 1999) or roles (Fauconnier 1985), by way of generalizing over open-ended sets of particular instances" (Langacker 2009: 155). *Semantic meaning* is taken to be the *basic information* in each *basic construction*, or the possibilities presented by the characteristics of its elements. In contrast, "[a]n *expression profile*, not its overall conceptual content - is what determines its grammatical category. [...] A verb[, for example,] designates a *process*, defined as a relationship followed in its evolution through time " (Langacker 2009: 9; [my emphases]). Therefore a change from lexical item to a grammatical item would be actualized in the change in the profile of a construction.

This is a meaning-first change, similar to what we find encountered in Hodge (1970) regarding Egyptian and Coptic. It is important to note, that such a definition leaves a large part of any explanation of any particular construction, let alone particular case, to conjecture, which creates problems when attempting to find a red thread through the work of different researchers. The same argument applies for various parallels in morpho-grammatical structure.

If the above quotes are taken to be regarded as axioms, then we could extrapolate that in CG grammar is invariably pre-determined by the structure of the underlying constructions it has emerged from. As a result, it is near impossible to claim any grammatical parallels between languages on the basis of nominally empirical evidence with the above definition in mind, without inherently claiming meaning, and, by extension, conceptual parallels, the proof of which science does not yet have the tools for. That does not pertain to our current discussion, as we are dealing with a grammaticalization phenomenon within the boundaries of a single language (which claim is in itself problematic, but alas the constraints of space do not allow us to look into it in more detail than absolutely necessary).

In the theoretical explanation of *be going to* below, the change in profile will appear as one of the main criteria that "tip" the expression towards grammaticalization. We should keep in mind, however, that the structural representations of the particular constructions are generalized, with them, be as it may, having been constructed with the help of previous work on the subject, but are in the end inherently subjective. The author has, nonetheless made an effort to at least work with an active awareness of that subjectivity.

4.2. Apprehension of "reality"

A trajector has a *field*, or "region of potential interaction". When another intruding perceptual entity* approaches this field, the potential for interaction creates a state of tension. This "tension" signals an abnormal state of affairs, which needs to be balanced out. This can be resolved by either *avoidance* or *capture* of that entity. This is the cognitive model known as the Control Cycle:

Figure 3. Apprehension of reality (Langacker 2009: 130; 306).

Langacker exemplifies the control cycle in the following way: an intruding entity enters the peripheral vision, thus creating tension. The default state of affairs (or at least the perception of the conceptualizer) is that there is none, and everything within the scope of perception has already been apprehended. The intruding entity cannot be perceived clearly, but it creates tension nonetheless by virtue of not being integrated into the system. Therefore the gaze shifts in such a way, so the entity can be centered and force applied. This is *perceptual capture*: the bringing of the target under perceptual control. Langacker proposes that "certain fundamental and universal grammatical notions - among them noun, verb, subject, object, and possessive - can be characterized semantically at both the *prototype* level and the *schema* level. The prototype is based on an experientially grounded conceptual archetype. [...] First manifested in [this conceptual] archetype […]", the *immanent cognitive ability* stemming from it can later be extended to other cases (Langacker 2009: 82). This phenomenon, when related to the central topic of this thesis, is succinctly summarized in the following two statements:

> In brief, image schemas, domains, frames, and mental spaces are all used by conceptualizers/ speakers for the purposes of lending organization and coherence to our experience[10]. (Kövecses 2007: 326)

[10] On a somewhat of a side note, it may be perhaps poignant to point out that this is not a new idea. The Sāṃkhya system of philosophy holds that the mind is the actualizer of the world as we perceive it, not that it is autonomous and unchangeable, quite on the contrary, the *jīva* or individual soul, is actually seen as increasingly fettered by reality the more gross it becomes. Thus, the very act of perception is a form of profiling already, as we saw in the above peripheral vision metaphor. This line of thinking brings to one's attention the importance of an almost automated perceptual bias, informed by both the organs of perception (eyes, ears, skin, tongue, nose etc.) and the mental "organs" of the associated actions (seeing, hearing, touch, taste, smell etc.). It is beyond the scope of the current text to discuss this in more detail, but it will suffice to say that positing the universality of any category, however abstract it may be, would be a controversial matter at best.

> Notions of location and existence are always relative to some domain, the default being space (and in particular, physical space in the "real world"). (Langacker 2009: 98)

What provides language with the patterns available for the formation of complex expressions are *constructional schemas*. These are meaningful abstract symbolic assemblies "[whose] skeletal meanings are immanent in (i.e. they "lie within") those of instantiating expressions, which elaborate them ("flesh them out") in their own individual ways. […] [For example,] [e]ach adjective ascribes a property to [a] modified noun, so the trajector of each corresponds to its profile" (Langacker 2009: 20). For an illustration of a multipartite construction of this type see Figure 4 below.

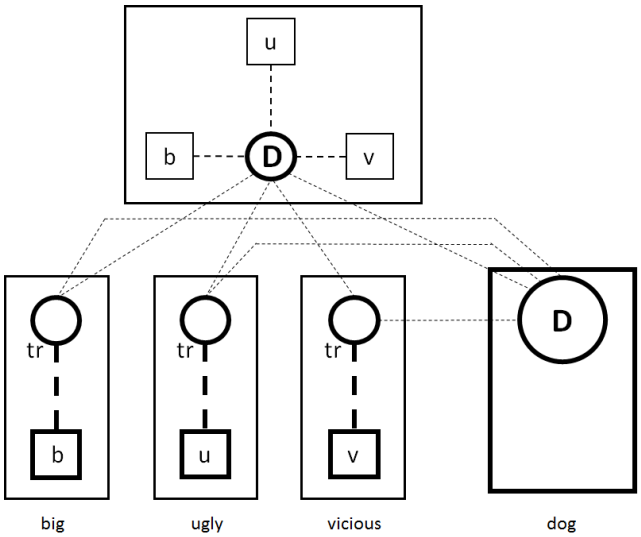

Figure 4. Structural embedding (Langacker 2009: 20).

Let us briefly look at two examples illustrating this. Firstly, for a perceptual bias. The so-called "basic colour terms", i.e. as we shall call it *the study of the vocabulary for the verbalization of visual phenomena*, has been a contested field since its early days (particularly the 1963 study of Berlin and Kay; cf. B&K 1993 [1963]) and yet it is still dominated by the uniformitarianist notion that all human societies conceptualize colour as the same entitified property (that is, in the sense of "hue" or what is more commonly called *focal colours*). In B&K's very own data, there is strong evidence from tribal languages like Paliyan, Dani, Torres Straits and others, that this is not necessarily always the case. That is not to say that these peoples are incapable of perceiving colour in the commonly accepted sense of the word- as proven by the study of Rosch with the Dani (cf. Rosch (Heider) 1972; 1973). They 'see' or conceive of the world in a different way.

A most marvelous grammatical case comes from ancient Mesopotamia. Whilst many languages used the cuneiform script that was originally invented by the Sumerians, and all of them have their modern relatives (Akkadian, Assyrian and Babylonian were Semitic languages and Hitite was, in fact, Indo-European), Sumerian does not. And it was only ever deciphered by virtue of the translations of its texts done by the ancient Babylonians, for whom, for all intents and purposes, it was something akin to what Latin was for the medieval Europeans. Considering the computing power of modern technology, we are still unable to decipher ancient symbols and texts without a "Rosetta stone", that is, we need a familiar point of reference. *Satis est*.

Such complex constructions, it has to be pointed out, neglect or overlook the linear dimension (what Saussure calls the *syntagmatic axis*). In GG, for example, this is not seen as an intrinsic element of grammar and is regarded as a by-effect of the externalization process. There is, however, some data, at least in English. For example, the sequence of adjective types before a noun they modify is not random – a phenomenon not reflected in the schematic representation of the above example (or at least not explicitly). Halliday and Mathiessen spell this out, albeit using different terminology: "[Modifiers] occur in a certain sequence; and the sequence is largely fixed, although some variation is possible" (*ibid*. 2014: 364; see Table 2). Langacker's model presupposes (or rather neglects to put to scrutiny) that all types of modifiers relate to nouns more or less in the same way, which is fine when dealing with oversimplified models, but may fall short when looking at complex phenomena like grammaticalization, where, according to CG itself, the underlying meaning and structure actually do matter. As such we shall try to examine the underlying meaning structures of *be going to* in as much detail as the scope of the current text permits.

Table 2. Sequence of noun modifiers in English. (Halliday & Matthiessen 2014: 364)

Those	**Two**	**Splendid**	**Old**	**electric**	**trains**
Deictic	**Numerative**	**Epithet$_1$**	**Epithet$_2$**	**Classifier**	**Thing**
determiner	**Numeral**	**Adjective**	**Adjective**	**adjective**	**noun**

As we pointed out, grammatical function is posited to usually have lexical roots and, as Langacker himself notes, there is a tendency for complex composites such as clauses or metaphoric expressions to retain features of the structures that comprised them. "Bleaching", or broadening of the lexical meaning, for example, would then constitute a simplification of the original scenario, thus expanding the possible scope of its application. Though, this should not be taken to mean, as we discussed in the paragraphs on Hodge (1970), that the meaning is truly "lost", but that there are always certain fossils of conceptualization logic at some deep level (by this the reader is meant to understand *frame*, *domain* of *schematic level*, in the sense of a general template, which shall be discussed in more detail below) which were originally contextually defined and are an archetypal product of sociocultural factors. What this

conceptualization logic is most commonly distilled from are patterns of action, including (but not limited to) usage. It can unfold at any cognitive level, that is to say, whatever its order, it is apprehended under neural control (Langacker 2009: 154).

"Being abstracted from usage events (through the reinforcing of a recurrent commonality they manifest), a linguistic unit resides in a schematized pattern of action. It is therefore intrinsically dynamic" (Langacker 2009: 154). In other words another formative factor for the survival of linguistic units over time is governed by frequency, which, in turn, is determined by efficiency.

4.3. Reality and schematicity

Reality (R) consists of the database of occurrences until the moment of speaking in terms of the physical, mental and social dimensions of experience of the speaker. The future is not, however, construed as a part of R. "[O]ur knowledge of reality is partial and imperfect" (Langacker 2009: 290). This serves as the basis for inductive reasoning. There are two types of relations: effective and epistemic. Effective relations take place of the level of immediate reality (R), whereas epistemic relations take place at the level of knowledge (of which no clear definition is given). What is to be understood by this is that modals function at a higher, lower in schematic resolution, more archetypal and more abstract level of the hierarchy of meaning. A key feature of modals is the distinction between root (lexical) and epistemic (metaphoric) senses, where both indicate that a proposition (p) is not accepted by the conceptualizer as being real (belonging to (R)). In the former case the predication is aimed at influencing the course of reality and in the latter the reality conception (RC - i.e. the virtual model of events on the epistemic level). As such, modals are usually relevant to future events, as their status in R is, as to the moment of utterance, undetermined (Langacker 2009: 290).

In order to be able to position any further thoughts on lexical and metaphorical meaning and their relation to each other and the real world by speakers within the hierarchy of conceptual metaphors, we need to look at the individual constituents of that hierarchy in a slightly higher resolution. We shall use the four-level-model proposed by Zoltán Kövecses (2017), as it is functionally oriented towards the description of various linguistic phenomena, while putting the terminological chaos that seems to grow rife in the field into some order.

> While domain is the most common term, many others are also used, including frame, image schema, cognitive model, idealized cognitive model, scene, schema, scenario, etc. The problem is compounded by the fact that the terms mean different things to different researchers. [...] conceptual metaphors simultaneously involve conceptual structures, or units, on four levels of schematicity: the level of image schemas, the level of domains, the level of frames, and the level of mental spaces. I call the resulting framework the "multi-level view of conceptual metaphor.
> (Kövecses 2017: 321)

The profuse lack of terminological consensus reflects a deeply-engrained conceptual dilemma. This is the problematic issue of identifying the structures or units that are involved in the formation of conceptual metaphors, which involve many different levels of schematicity (Kövecses 2017: 322). Langacker (1987: 492) defines it as "[the] relative precision of specification along one or more parameters". What this entails is that the varying "levels" of a conceptual hierarchy, forming a multistratum system, are themselves not clearly delineated. There is a gradient of schematicity within which conceptual metaphors function; the lack of clear boundaries also permits higher dynamism within that system. Kövecses distinguishes between four schematicity levels, in order of schematicity: image schemas, domains, frames and mental spaces (Kövecses 2017: 323; see Figure 5).

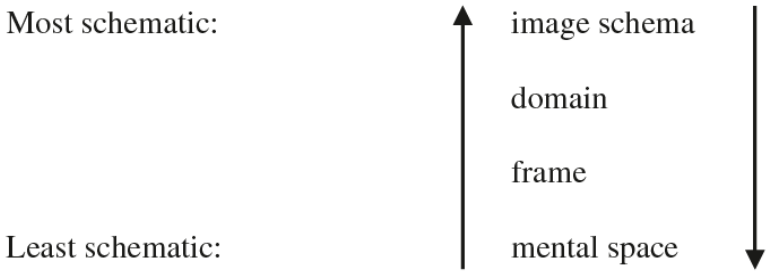

Figure 5. Conceptual schematicity hierarchy.

Furthermore, these do not only stay in a vertical hierarchical relation to each other. Kövecses also proposes a nested model, which entails that the passage of information from one level to another could possibly be subject to effects similar to perceptual filters, by virtue of the fact that higher resolution data is more relatable, but less utilitarian and lower resolution data (i.e. higher in the schematicity hierarchy) is more general, harder to grasp by virtue of that fact, but also more descriptively versatile, precisely because of its broader scope. As we discussed above,

this has to do with fundamental notions of being, many of which are encoded on the biological level, not least important of which ACTION and BODY. These we shall discuss in more detail in relation to *be going to* below.

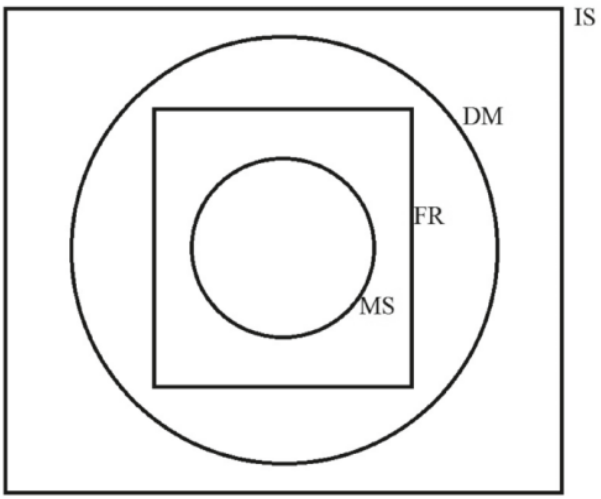

Figure 6. Schematicity as inclusion. IS stands for image schema, DM for domain, FR for frame and MS for mental space (Kövecses 2017: 324).

> Image schemas are essential conceptual structures that imbue experience with meaning (cf. Johnson 1987; Lakoff 1987. Based on the literature on image schemas, Hampe (2005: 1–2) finds four features of image schemas especially characteristic. I present them here in a somewhat simplified form.
> Image schemas are
> – directly meaningful preconceptual structures;
> – highly schematic gestalts;
> – continuous analogue patterns;
> – internally structured, consisting of only a few parts.
> (Kövecses 2017: 324)

Image schemas sit at the top of the hierarchy. As such, they encode the most general patterns that imbue a wide array of experiences with meaning. We mentioned ACTION or MOTION as one of these schemas. A more particular case would be SOURCE-PATH-GOAL MOTION, which includes more information and thus is lower down the schematicity hierarchy. JOURNEY is an even higher resolution schematic structure. Each symbolic assembly can in this way be instantiated from and/or and extension of one or more higher order schematic structures

(Kövecses 2017: 324). The less schematic a structure is (I.e. the lower down the hierarchy), the more conceptually rich it becomes.

The level below image schemas is occupied by domains. A domain is, according to Langacker, "a coherent area of conceptualization relative to which semantic units may be characterized" (*ibid*. 1987: 488). The domain of BODY, for example, is based on the image schemas of CONTAINER, VERTICALITY, (STRUCTURED) OBJECT, etc., but so is the concept of BUILDING, which shows how image schemas can inform different concepts simultaneously. Domains are further elaborated by frames, consisting of roles and relations between these roles. This is the mechanism by which some generic-level metaphors like THE MIND IS THE BODY (see Johnson 1987; Sweetser 1990) emerge (Kövecses 2017: 325). "*In brief, image schemas, domains, frames, and mental spaces are all used by conceptualizers/speakers for the purposes of lending organization and coherence to our experience*" (Kövecses 2017: 326; [my emphasis]).

Table 3. Schematicity levels expanded.

Image Schema	Abstract principle complex	Least variation; Most difficult to arise;
Domain	Metaphoric centre/prototype	Analogy is necessary;
Frame	Circumstances of the metaphor creation;	Analogy is necessary; May influence metaphor creation;
Mental space	Consciousness; Immediate reality;	Most variation; Easiest to arise;

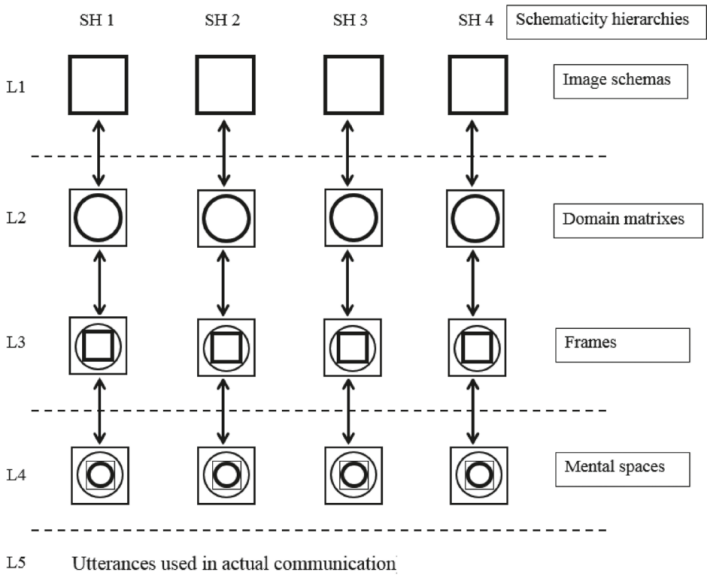

Figure 7. The schematicity hierarchy with three major distinctions between the levels (Kövecses 2017: 327).

A domain matrix is a network of schematic structures (roughly speaking at the domain level) which are interconnected and mutually presuppose one another. These connections can be on the domain level (more direct) or through connections they share with the other levels of the hierarchy (more indirect). This Kövecses terms "distance". Usually not all frames connected to a domain matrix participate in the conceptual mapping and they tend not to elaborate upon all aspects of their source domain(s) (*ibid*. 2017: 328). In turn, frames are further elaborated into mental spaces.

> [These] borrow their structure from frames, but the generic structures from frames are further elaborated by specific information from context. [...] Mental spaces are online representations of our understanding of experience in working memory, whereas frames and domains are conventionalized knowledge structures in long-term memory.
> (Kövecses 2017: 326)

4.4. "Ghost in the shell"

The overlaying of a "ghost" of the original source domain onto the target domain and the "dragging" the underlying constructional schemas together with it are how metaphorical phenomena can be explained within the CMT framework. Thus *something* is *something else*, only in relation to a different domain, which is what constitutes a cue for metaphorical recognition. A metonymy would be when a frame, for example, becomes a "ghost", gets moved to the domain level, all the while still being connected to its source domain. Thus a part stands for the whole. In the case of metonymy, a concept would connect to another conceptual structure within the schematicity hierarchy and, when used in an indirect sense, it would connect to it on the same level (i.e. when connecting upwards a frame would function on the domain level and *vice versa*). Unfortunately, though fascinating in itself, a more detailed discussion of metonymy strays too far away from our current focus. By virtue of the "ghost" process, however, the constraint usually enforced by the more limited, higher resolution specific information offered by frames can be said to be circumvented, as otherwise it would not be able to access other aspects of the domain matrix.

Since image schemas are long-term analogue structures that preserve most schematic data and mental spaces are short-term structures that are closest to the symbolic forms used in

actual utterances, the level of domains and frames can be said to be most productive and where most variation and change are likely to occur. The effects of that would be visible in changes in the actual utterances, as the metaphorical "stencils" get adjusted to fit the available set of symbols that form the actual observable utterances, manifesting as metaphorical or metonymical expressions, formed on the basis of what is already known elaborated upon by new input. The meaning change towards a new conceptual entity (or assembly of entities) or a shift of the value of an entity on the higher levels of the schematic hierarchy would be an instance of lexicalization, which may or may not be directly observable on the utterance level. A meaning change, or rather appropriation of symbols (meaning actual expressions in this case) for the expression of more abstract relations would be grammaticalization, which may or may not be directly observable. When we take a look at the *be going to* construction in this way, its grammaticalization would then constitute a shift from the lexical meaning of traversing a physical path, to the traversing of a path between two domains/frames.

As we saw in the discussion on Hodge (1970) two things are especially notable: a) there appears to be a *fossilized* or *obscured* meaning in inflectional constructions that are derived from periphrastic expressions, which may appear to be "lost" at the directly observable level, but through diachronic analysis is revealed to have been shifted to a deeper conceptual level. From this we derived the observation that when the inflectional form becomes obsolete, it tends to be substituted by a periphrastic form, based on analogous principles to the primary periphrastic form that was evolved to an inflectional form, etc. This process, however, is not deterministic in the sense that it may occur in a top-down direction, or any particular pre-set direction for that matter. In comparison, the principles of hierarchical dependency of UG pre-determine the mode of combination of the various units and the parameters are essentially the availability of such units as pertaining to the current situation. In other words, there is a complexity in both paradigms that can be designated as "deep structure", with the difference that in UG it is a very small set of generative principles and formative parameters that is claimed to be capable of accounting for large diversity, whereas in CG any level of schematic hierarchy can be productive of new structures (Kövecses 2017: 326; 329-330).

> The proposal that CMT made is that abstractions (abstract concepts and reasoning) are made meaningful by virtue of conceptual metaphors connecting

> an abstract concept with a physical (i.e., perception-based) one (see, e.g., Barsalou 1999). In them […] image schemas give meaning to abstract concepts (see, e. g., Johnson 1987; Lakoff 1987, 1990). As a result, the conceptual system, including abstract concepts, becomes embodied, that is, perception-based through and through. Conceptual metaphors in CMT are usually described as relationships between domains. However, as it has often been noticed, to think of conceptual metaphors as a set of mapping relations between two domains leads to a major problem: Source domains typically contain a lot more conceptual material than what is actually carried over to the target domain. Several solutions to the problem have been suggested [and almost all] rely on the notion of domain.
> (Kövecses 2017: 328)

5. Lexical and metaphorical meaning (The constant striving for epistemic control)

5.1. Epistemic control and apprehension

> In the perception of activity, ontology - the subject of what is, and epistemology, the subject of what we can understand - are merged. The subjective and objective presuppose each other - they cannot be separated - the world is our experience of the world which is constituted by both – (Gombrich 2013)

Humans constantly strive for epistemic control of their environment, which is inherently chaotic. As such, the conception of reality needs to be adaptable and to evolve in order to deal with new occurrences. The experience accumulated in the past gives tendency and a certain direction to the development of the tools for epistemic control (Langacker 2009: 163). What we conceptualize as reality is what we have under epistemic control. If a direct parallel between pre-existent structures at a certain level of schematicity and new data is not possible - one at the next level is attempted. This process (which is a more detailed look at the structure of apprehension) occurs in a bottom-up direction. Mental spaces activate higher-level conceptual structures, while the latter structure mental spaces (Kövecses 2017: 344). This concerns efficiency of computation. The resources of the available cognitive framework are utilized to the maximum possible extent.

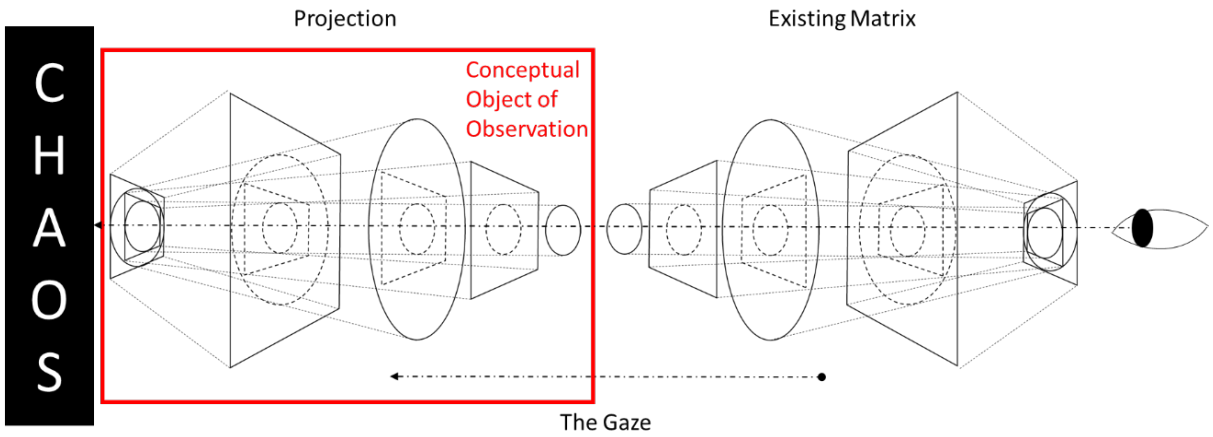

Figure 8. The metaphorical mechanics of apprehension.

Because it is unclear what the exact processes are that instigate metaphoric transfer, singling out a certain level of schematicity as the focus of metaphor studies is impractical. The various levels (if they can be called that) operate together, and case by case study of these phenomena has the potential to provide us with more concrete insights into the matter (Kövecses 2017: 345). On the basis of that we can conclude that the inherently deictic, linear conception of time and the non-perfective, immediate nature of the gerund of "go" must have shared enough schematic similarity for metaphoric transfer to occur.

5.2. Conceptions of time as motion

"The spatiotemporal notion of motion seems to be cross-linguistically a common source domain, if not the most typical one, for metaphorical representations of the passage of time" (Huumo 2017: 3). We can distinguish between two different forms of metaphors of TIME as MOTION. Moving Time (MT) as in *Christmas is coming* and Moving Ego (ME) as in *I am going to Rome*. Veridical time (VT) is the non-metaphorical conceptualization of time, where the processual profile of the clause-level metaphorical expression resides. A metaphorical path (MP) is the metaphorical conceptualization of time as a path occupied by the metaphorical motion. A motion metaphor of time tracks the MOVER's changing position on the MP against VT, where the MOVER can either be MT or ME (Huumo 2017: 1). This is not to be confused with the distance between domains, as both VT and MP are structures internal to their respective conceptual schemas.

There are, however distinct differences between the concepts of spatial motion and the metaphorical representation of time as such as it constrains the direction of the metaphorical motion and its conception as a ballistic movement, in the sense that once started it cannot cease, nor can it be slowed down (Huumo 2017: 3-4).

The deictic situation does not have the speaker, but rather the EGO as its reference point (which may or may not be the speaker's virtual counterpart), roughly equivalent to what Fillmore termed the *origo*. Tense is what relates the *now* of the EGO (in this a position on the MP) to the "present" of the speaker in VT. Thus, analogously, a distance on the MP, generally corresponds to duration in VT. *Front* on the MP is conceptualized as future and *back* as past (Huumo 2017: 13), where each reference point can be either punctual or periodical. We shall come back to this when discussing perfective and imperfective action in **Section 6.1**. On all figures in the current text, the reader is to regard right as *front* and left as *back*, that is to say the future and the past.

In the same passage, however, Huumo also says that "the metaphorical notions (motion, EGO's 'here', front, back) are represented on the MP, while the non-metaphorical temporal systems (tense and aspect) relate to EGO's 'now' in VT" (*ibid*. 2017: 13). This statement contains two hidden problematic assumptions: a) that tense is not metaphorical and b) that it is separate from the metaphor of time as path and temporal motion as motion along that path. Neither of these are grounded in argumentation and their position within a presumed schematicity hierarchy is not elucidated. This is especially relevant in lieu of the fact that the metaphoric transfer can take place at any level of schematicity - something also not taken into account, or at least not in relation to CMT. If we assume this to be true, it leads us to ask the following question:

Why would a new construction for the expression of futurity be necessary in the first place, if there are pre-existing conceptual structures and usable expressions for that purpose? As an extension to the principle of "meaning-first" change we outlined in **Sections 1. – 3.**, one would have to assume that there needs to have been a markéd meaning difference between the old (*will*) and new (*be going to*) mechanisms, or at least one that is differently shaded in usage. If the meaning the two constructions relayed was identical, then both would not have

endured the test of time simultaneously and the more optimal one would have been selected (in an ideal case). To clarify the reasons behind the existence of two alternative futures, we need to look more closely into the meaning and associative differences between them.

5.3. Conditionality of *will* vs. *be-going-to*

Langacker (1991: 278) established the idea of *projected reality* extending from the present into the future, which is both dynamic and can, to a certain degree, be predictable on the basis of already existent contextual criteria (Brisard 2001: 252). In this sub-section we will discuss what significance this has for the changes in the conceptual configuration and profiling of the multi-layered construction at the three stages of grammaticalization of *be going to*.

Space is generally conceptualized in a Levinsonian arrangement (Levinson 2003: 24–34), i.e. along the three axes of space: sagittal, vertical and lateral. This three-dimensional system can be overlaid on a special configuration in an intrinsic, relative or absolute frame of reference. Though the source domain of time conceptualization is SPACE, the two differ in several aspects (Huumo 2017: 2). The conception of time is monodimensional, where space has three dimensions. Time is coded as motion, where space is in most cases stationary (Haspelmath 1997: 23).

> In Galton's (2011) terms, time is conceptualized not only as having an extension (like space), but also as being linear, directional and transient (see Galton 2011; Bender and Beller 2014: 345). While linearity is a feature shared with spatial paths and directionality with spatial motion (which itself presupposes time), transience is a purely temporal notion that sets time apart from space (for a detailed account, see Evans 2013a, 2013b). It is also, Galton (2011) argues, a notion that escapes attempts at precise definition: transience refers to the elusive notion of the passage of time and the uniqueness of the constantly changing 'present moment', which is our only way to experience the world. This is an important reason why Evans (2013a: 53–68, 2013b) emphasizes the non-spatial nature of time and argues that the linguistic representation of temporal relations differs from that of spatial ones. As Bender and Beller (2014) point out, the t-FoR [(*temporal frames of reference*)] models proposed by different scholars vary considerably, and disagree as to the nature of the systems involved.
> (Huumo 2017: 3)

Brisard argues that examining the epistemological meaning foundation of highly grammaticalized temporal phrases eliminates the need to explain by pragmatic means the wide

variety of uses and adaptations they display (*ibid*. 2001: 252-3). As most commonly used futurative expressions in English, the forms *will* and *be going to* are differentiated by the different epistemic value of the predictions they make about the future. Both entail a knowledge of the previous *and* the current *status quo* of the speaker and the notion of the speaker's presence *medias in res* in the communicative situation. This, in turn, presupposes that the statement can be verified by the listeners' perception in real time. Of the two constructions, Brisard claims, the will-future entails a higher order of epistemic certainty (*ibid*. 2001: 252; 280). As we will see below, such a designation is problematic.

Temporal expressions formed with the help of will and have signify

> [s]tates of affairs that do indeed refer to the future [or past respectively], but also to epistemic predications about the present [and] modal predications of volition and willingness, [as well as to] evaluative and/or predictive predications in the realm of so-called general validity statements.
> (Brisard 2001: 251)

> For *go* futures, […] instead of moving through space to initiate an infinitival process, the subject is re-conceptualized as moving through time.
> (Brisard 2001: 254)

Palmer (1979) and Leech (1971) distinguish between two types of modal expressions with futurative use: INTENTIONS and CAUSES. Irrespective of whether the intentions are the product of one individual or a collective and whether the causes are directly physical or not, all of these serve as a basis for the speaker's predictions about the future, which can be either perceived or conceptualized (Brisard 2001: 255-6). On the basis of the work of Nicolle (1997) Brisard further draws the conclusion that the *be going to* is related to three notions: PRIOR INTENTION, IMMINENCE and INNEVITABILITY, whereas "will" relies on additional conditions and contextual prerequisites. Thus, the *be going to* he characterizes as inevitable future and "will" as conditional, the former entailing a verified predicated state of affairs and the latter not (Brisard 2001: 256-7). These statements, however are generalizations based on very constrained uses, where the pragmatic context in which they are set exerts undeniable influence on the interpretation of the phrases. Restricted usage limits utility. The *be going to* construction is undeniably prolific, productive and has become very common. And it simply would not have been the case if its core conceptual structure was contingent to but a few particular cases, quite

the contrary. The new more widely applicable uses resulting from the readaptation of the elements naturally get adopted in suitable contexts.

Example (1) below deals with a very particular speech situation, where the phrases are used as an answer to a straightforward inquiry and necessarily have to express some commitment or lack thereof. The second example (2) refers to a very specific situation (that the speaker is about to vomit) and it is unclear how fixed the expression is and whether we are not talking about a very particular use of *be going to*.

(1) Can somebody visit John tomorrow?

(a) I'**m going to** visit him.

(b) I'**ll** visit him.

(2)

(a) I'**m going to** be sick.

(b) I'**ll** be sick.

(Brisard 2001: 256)

The notion of INNEVITABILITY he illustrates with the following:

(a) Don't go near that parcel! It'**s going to** explode!

(b) Don't go near that parcel! It **will** explode!

(Brisard 2001: 257)

What this Brisard does not take into account is that the subject of the sentence is an inanimate object, rather than a person. In this case, it is the *will* that is clearly conditional, though, the interpretation is once again down to the context of usage. In the above case, the *be going to* helps interpret the two sentences as part of two separate predications: whether the addressee will approach the parcel or not is irrelevant. In the second case there is a clear causal relation between the two statements: if the addressee would go near the parcel, then it will most certainly explode (or at least that is the presupposition).

Whereas subtle differences may be distinguishable on a highly theoretical level, from a practical point of view both *will* and *be going to* fulfill the same purpose: to signal future action. It is simply unfounded to draw generalized conclusions about their epistemic bases from a few very context-specific uses as Brisard does, when, as we clearly saw in **Section 3.** and **4.**, context-dependency is a crucial meaning-determining factor. Under these circumstances we shall assume that most lexical meaning is more schematic, lower resolution and higher up the CMT hierarchy, whereas it becomes particularized and adopted for the relevant speech situations in

real time. As a consequence of this it would not be inconsequential to determine on which level of schematicity the notions of PRIOR INTENTION, IMMINENCE and INEVITABILITY come into play, or, in other words – to what degree they are intrinsic to the constructions they are said to define.

The corpus data provided by Brisard hints at a similar conclusion (see below). Considering the samples were taken from the Brown corpus (American English) and in the Lancaster-Oslo}Bergen corpus (British English), it is challenging to determine whether the IMMINENCE factor was a primary element of the construction on a low-resolution schematic level. It has to also be taken into account whether the construction allowed such an interpretation to begin with or whether that is a later development, which is something we are going to look into in more detail in **Section 10**. The diachronic aspect, he elucidates by saying that

> [*w*]*ill* still possesses aspects of the volitional meaning it started out with in certain present-day usage contexts, such as tags attached to imperatives and certain commissives and requests in the first and second person paradigm. *Be going to*, in contrast, developed from a gradually idiomatized expression of spatial motion, especially when followed by an infinitive - as in *I'm going to close the door*, a sentence which has become ambiguous between a purely spatial reading (meaning something like `I'm going to the door (in order) to close it ') and an expression of intention. According to Wekker (1976: 29), the periphrastic construction finds its origins in Middle English (the first OED reference for it is from 1482), when the present progressive of the verb *to go* combines with an infinitive whose subject is identical to that of *go*. From about the seventeenth century onwards, the construction gains in frequency and starts to acquire a conventionalized future meaning that is progressively less likely to be confused with any spatial reading […].
> (Brisard 2001:278)

According to Scheffer, *shall* (and by extension presumably *will*, though this is not explicitly stated) is actually used for *non-volitional actions*, whereas *be going to* is used for *voluntary undertakings* (e.g. *planned action*), as well as referring more directly to the actual moment (*ibid*. 1975: 98-9), which can be interpreted as being grounded in the nature of the motion metaphor. This is further complicated by the issue whether Old English originally possessed a progressive before it came into contact with Latin constructions of the type *sum + present participle*

(cantans sum, lit. "[I] am singing*")*. And there were distinct structural analogies to the progressive in OE: "[B]oth [OE's] perfect (*habban + past participle*) and [its] imperfect (*beon/wesan + present participle*) were periphrastic tenses" (Scheffer 1975: 131-2). It most likely developed out of periphrastic constructions of the type *be + adjective,* like in *hie wæron blissiende* ("they were rejoicing"), which "was felt to be something between *hie blissodon* 'they rejoiced' and *hie wæron bliþe* 'they were glad'" (Scheffer 1975:132).

Brisard, on the other hand, interprets the two constructions as both being NON-GIVEN (-G), with "will" being NON-PRESENT (-P) and *be going to* being PRESENT (P), therefore concluding that both position a *status quo* in the future and mentions the possibility that the two profile similar, if not identical, portions of hypothetical reality in the future, both bound by some measure of pre-existing and intermediate conditions (not) occurring. "It would not make much sense to talk, *in vacuo*, about a potential state of affairs without having any reason to believe that this state of affairs has some likeliness of occurring" (Brisard 2001: 277).

This is to a certain extent based on the interpretation of *be going to* as an expression of an imperfective process, where will (at least grammatically stemming from the fact that it is a construction of the present tense of *will* + *infinitive*) is conceptualized as a perfective process and therefore intrinsically "complete" conceptually. We shall discuss this is more detail in **Section 6.1**.

Table 4. Categorization and distribution in percentages for be **going to/gonna**
(Brisard 2001: 259).

	Absolute frequencies	Relative percentages
INTENTION	149	35%
ASSUMPTION	119	28%
INEVITABILITY	66	16%
IMMINENCE	50	12%
CONDITIONAL (PROTASIS)	19	5%
CONDITIONAL (APODOSIS)	18	4%
Total	421	100%

As hinted at by Brisard's study of *be going to* vs. *gonna* (see Table 4 above), there are differences in the hue of meaning even within the boundaries of the constructions' contemporary usage. Taking into account H&T's three-stage stratification of the grammaticalization of *be going to*, where the intentional non-action is an important transition phase between motion in space and futurity and juxtaposing that to the claim that the *be going to* construction is less condition-dependent, it is curious that the INTENTION and ASSUMPTION functions appear most prominent in the study. The functions entailing INEVITABILITY and IMMINENCE correspond more closely to the purely tense function for the constructions and account for 28% of observed occurrences, whereas INTENTION and ASSUMPTION, where no sure prediction about the future is made and can be loosely regarded as conditional, are responsible for 63% of uses. If we also subsume PROTASIS and APODOSIS into this percentage as they are *de facto* conditional uses, we end up with what appears to be a near textbook example of a Pareto distribution: that roughly 20% of all possible usage tendencies are responsible for approx. 80% or actual use. If the data has been interpreted correctly, then the *be going to* construction is undeniably conditionally determined.

Adamczewski (1978), who recognized the deficiency of a solely aspecto-temporal explanation for the progressive, attempts to provide a purely grammatical solution, outside the realm of semantics by claiming that "the be + -ing form functions as a kind of meta-operator at the discourse level, indicating that a situation is known to the speaker and hearer (i.e., the situation constitutes the theme of the utterance)" (Brisard & De Wit 2014: 53). The authors note, however, that this does not account for all instances of the progressive, as in some cases it is used to introduce scenarios unknown to the speaker. It should nevertheless be acknowledged that Adamczewski's work is important, because it shows that aspectual and temporal notions are insufficient to account for the attested polysemy (Brisard & De Wit 2014: 53).

Williams (2002) on the other hand suggests that 'suceptibility to change' as the central meaning of the English progressive (Brisard & De Wit 2014: 54), which stands in contrast with the thesis that, when used in the futurative sense, it denotes an event that is less susceptible to chance than that expressed by the futurative use of the present simple (PS). It light of this it

becomes clear that there are two factors that line out whether a futurative construction is conditionally determined: the verbal tense and the meaning (lexical and metaphorical). Alternatively, it could be that the conditionality itself is what is conceptualized/perceived of as grammatical tense, which implies, rather than denotes time.

"Dowty (1979) introduce[s] into his analysis a deontic modal component in the form of inertia worlds, i.e., the set of worlds in which an event referred to by means of a progressive predicate can continue uninterrupted" (Brisard & De Wit 2014: 54). The notion of inertia supports the idea of the higher surety component of the futurative progressive in comparison to PS. This may imply that the lesser surety of the "will" construction may in part be due to the grammatical form of PS, though this is unclear.

Furthermore, Brisard & De Wit note that the futurative use of the present progressive itself entails some uncertainty about the event or possibly its failure to occur due to human fallacy. In contrast the futurative use of the present simple usually is found to indicate an infallible certainty of events (e.g. "The event is happening on the 10th of May." vs. "The sun rises a minute earlier on the 10th of May"). Whereas the second is a statement of fact, the first is usually based on inductive reasoning from the current discourse space (Brisard & De Wit 2014: 74).

When a state instead of a position is introduced into the conceptual framework, one automatically needs to refer to time (or rather to *transience*), as no state is ever permanent, although at a lower resolution conceptual level (i.e. higher up the schematicity hierarchy) one could argue that a condition is conceptualized spatio-temporally as a **"***position***"** *within a state over a period of time.* Assuming, that is, that the stage of "being", e.g. *I am* in the sense of *I exist* is taken as a prototype - i.e. "being" is a given (G), therefore emphasizing something about an imperfective condition automatically would evoke some kind of temporal construal of a higher order, i.e. the current moment is juxtaposed to a broader view of time. This, in turn, posits a need for structuring time at this higher order (i.e. higher on the schematicity hierarchy) in order to facilitate the needed reference and that that structure would require the minimum processing power, if an already existing schema is appropriated and modified to serve that purpose. This is acceptable because the crucial condition for a metaphor to occur, namely the

"is but isn't" abstraction type, allows for such otherwise completely operationally unacceptable actions to take place nonetheless.

6. Grammatical elements

6.1. Perfective and imperfective processes

Besides being a complex phenomenon of different interconnected schematic structures, a periphrastic expression's meaning is dependent on its grounding (for all intents and purposes its grammaticality) and on the focus of attention (profile). "Formally a grounding element has two main components: modality and "tense", which is better described as "distance". Each is iconically organized, with an unmarked "zero" option and a marked option indicating greater removal from the deictic center" (Langacker 2009: 162), which may or may not be co-instantiating with the moment of speaking. This is related to two things: how specific the situation is and the perspective for "viewing" it, as well as on "the degree of prominence conferred on the elements within it" (Langacker 2009: 6). The last part of the statement entails that there can be different levels of profiling, which is a reasonable proposition, considering there are inherent hierarchical structures in language (we are not discussing here whether they are a product of nature or nurture, simply that they undeniably exist), however Langacker himself does not expand on this idea and to develop it stretches far beyond our immediate focus, though, considering the remaining unclarities despite the author's best effort, future investigation of this proposition may prove fruitful. Some aspects of the various implications of profiling different parts of a schematic structure we will discuss below.

There are two types of processes according to Langacker: *perfective* and *imperfective*. *Perfective processes* are bounded within the immediate scope of their domain of instantiation (TIME; t), not internally homogenous (i.e. have complex internal structure), nor contractible or replicable – there is a delineation between different instances. *Imperfective processes* extend beyond the immediate scope within its respective domain, are internally homogenous, contractible and not replicable. "An imperfective process describes **extention** through time of a stable situation" (Langacker 1990: 86), while a perfective process is a changing situation through

time. The endpoints of an imperfective process are excluded from the scope of predication in the temporal domain (Langacker 1990: 88; 2009: 186-7).

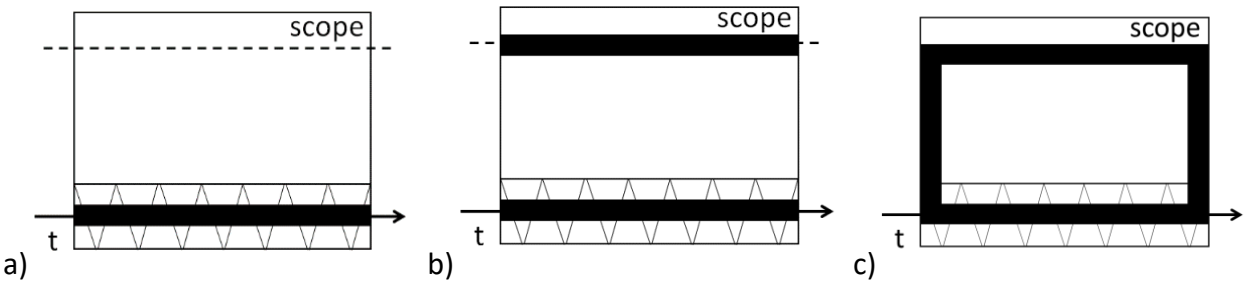

Figure 9. a) imperfective process, b) present imperfective process (Langacker 1990: 86), c) present perfective process (after Langacker 2001: 262).

In past perfectives, for example, the only requirement is that the IS precedes the speech event, there is no limit on its scope. "A perfective process needs to be observed in its entirety to be indentified. [...] For a stable situation that extends indefinitely, the usual mode of apprehension is one of *sampling* some limited portion. A limited sample is sufficient for qualitative identification and may be all that is possible" (Langacker 2009: 192). Langacker goes on to elaborate that present perfectives are problematic because of two criteria: a) durational - the utterance usually occupies far less time than the event it describes and b) epistemic- there is a misalignment between an already flowing event and an utterance attempting to performativity describe it in real time (*ibid*. 2009: 192).

6.2. Schematic reanalysis and embedding

The verb *move* (from Langacker 2009: 22; see *Fig. 8* a)) displays the schematic representation of all verbs (tenseless) in CG as a trajector (Agent or Patient) undergoing a change in their state of being. For reified "things" (which he extends to encompass all nouns), Langacker states that the domain of instantiation is SPACE and for processes (taken to mean all verbs) it is TIME. Analogously to one another, mass nouns and imperfective processes are taken to extend beyond their respective domains of instantiation. The verb of direction *go* (see Fig. 10 b)) is less general (has more structure, direction, implications etc.) than *move*, as it implies a *path*, rather than just *change of current location*. It can also implicate *to go away*, *to go somewhere* or the process, the going itself. It describes, on the level of Reality Conception, directed motion from location to location, i.e. from a mental space to a mental space within the domain of

instantiation, which is taken to map onto Reality. When the goal is not specified it remains unprofiled, and when it is specific, like in *to go to Rome* – it is, as it is part of the focus of attention (see Fig. 10 c)). The profile can also be interpreted as adding a degree of specificity to the profiled element, in this particular case more narrowly defining the landmark.

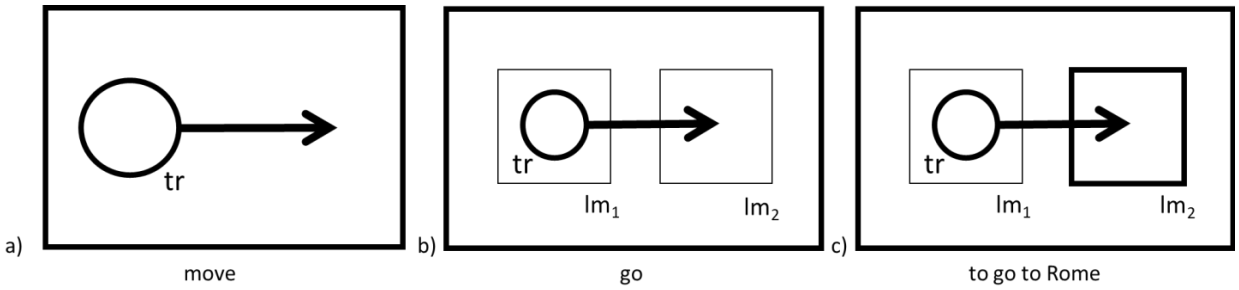

Figure 10. *Schematic representation of verbs of motion.*

Therefore, each introduction of additional arguments (symbolic structures) within a structure (symbolic assembly/schema) prompts its compositional reanalysis. However, if its status itself is reanalyzed, then the whole construction can be viewed as a single constituent (for which purpose it needs to be schematized and moved up the hierarchy). Then it itself can substitute a simpler element in another construction on the basis of some similarity between those. All of this fits neatly within the basic principles of CG. It is also operationally efficient, as frequently occurring informational elements need not be unpacked when they are themselves being used as a constituent in a higher-order conceptual construct, which, however, does not entail that they "lose" their meaning, rather it becomes distilled, lower resolution and higher schematicity, hence more widely applicable.

By the very virtue of using the progressive instead of the present simple, one draws attention to the fact that the process in question is not habitual. "[T]he verb go is understood to profile EGO'S gradual, metaphorical motion between the two landmarks [e.g. the "now" and the "future"] on MP. What temporally "moves" from time A to time B is more typically a situation" (Brisard & De Wit 2014: 69). Thus we shall suppose that it is the "be" situation within a state of "going" that is moving in the direction of ("to") a state of performing another action. When this is applied to the above example c) several changes occur. The verb *be* is still grounded in the moment of speaking, the verb of direction *go*'s limits, however, extend beyond the immediate scope of the predication, signifying its imperfectivity. Although incomplete, by

virtue of the second landmark being a place, the meaning of the entire construction retains its spatial connotation (see Figure 11).

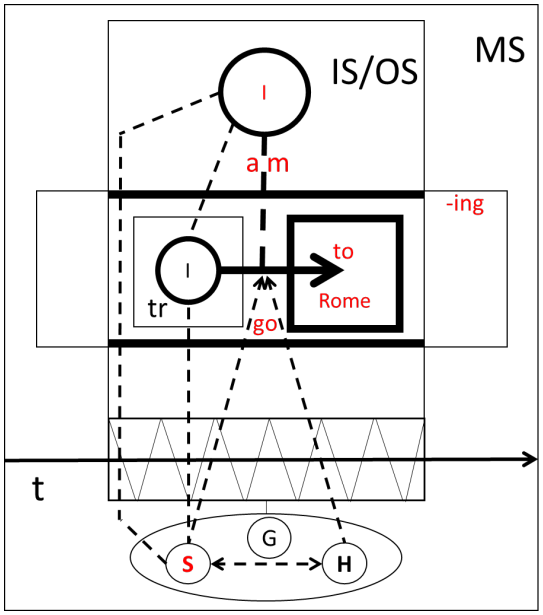

Figure 11. *I am going to Rome*. (loc.) (cf. Langacker 2009: 190-1; 150; 156).

The meaning of English modals like *will* has its roots in the lexical meaning of the root of that modal (in this case volition). This root meaning defines the relationship between the trajector and the landmark, without grounding it (Brisard 2001: 272). On the basis of this and the discussion of the conditionality of *will* and *be going to* in **Section 5.3** it is logical to assume that this is also the case for *be going to*. This is further supported by the fact that "[t]he grammaticality judgement may depend on the differences in meaning, not on [the observable surface] structure [of the utterance]" (Huumo 2017: 33).

Hopper and Traugott (2003: 93) outline a three-stage progression of the grammaticalization of the *be going to* construction. It is plotted on both the paradigmatic and syntagmatic axes, taking into account both reanalysis and analogy (see Figure 12). In Stage I. the second landmark is substituted for a purposive clause, in Stage II. the sentence is syntactically reanalyzed and the *be going to* is assigned tense function and the verb becomes generalized to a verb of action. In Stage III. that reanalysis is extended by analogy to further encompass all processes.

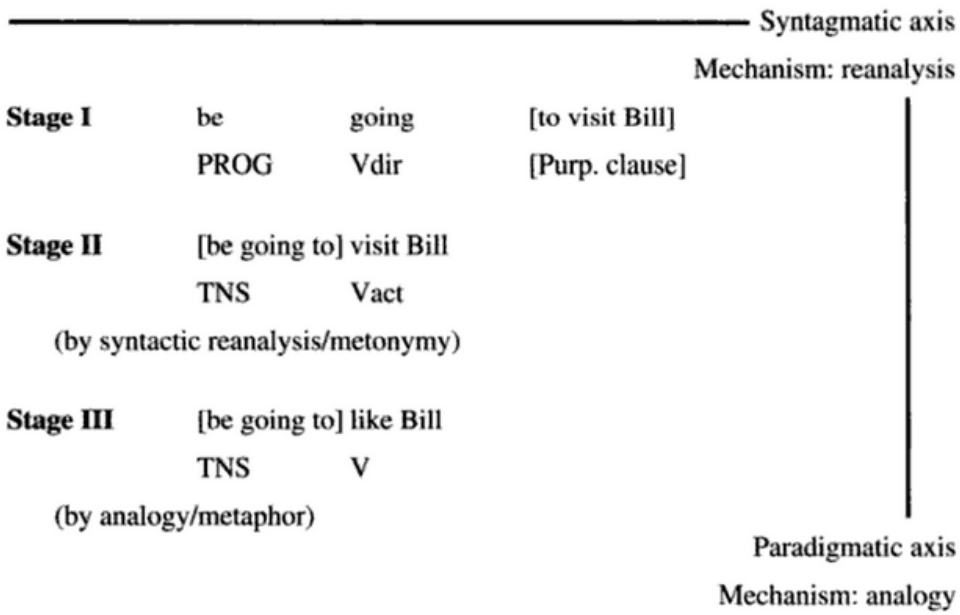

Figure 12. The three stages of the grammaticalization of be going to (H&T 2004: 93).

> "In CG terms, a finite verb serves to ground the profiled occurrence of a process with respect to a reality conception" (Langacker 2008: 298). Tense imposes an immediate temporal scope, positioned with respect to (i.e. grounded in) the speech event (in VT in current terms), within which the profiled process must be manifested (Langacker 2008: 157). Since EGO-CENTERED motion metaphors of time are about the experience of time, we can now specify the privileged status of Ego's 'now/here' by identifying a correlation between MP and VT such that at any given point of VT being sequentially scanned, EGO's position on MP is the counterpart to that point of VT, which is Ego's 'now'.
> (Huumo 2017: 32)

For a slightly more visual presentation of the same argument see Figure 13 below.

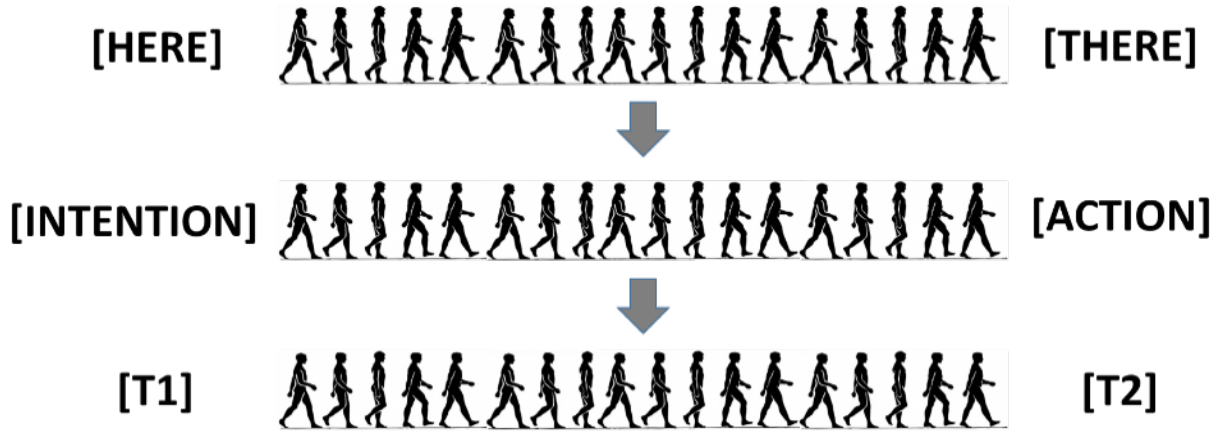

Figure 13. Metaphoric evolution of *be going to.*

6.3. Grounding

The further something is removed from the Reality Conception of the Conceptualizer, the further away it is from being "yoked", for all intents and purposes, by the Conceptualizer's conceptual hierarchy. Hence, it would be logical to assume that should something fall outside of that scope, then it would be considered as ultimately conditional, that is to say subject to unknown number of unknown potential variables. Thus it needs to be grasped and assessed by the Conceptualizer, which assessment constitutes the grounding element (Langacker 2009: 293).

> Grounding is a grammaticalized[11] means of specifying the epistemic status of a thing or process with respect to the ground, i.e. the speech event and its participants. Characteristic of a full nominal (i.e. noun phrase) or a finite clause, grounding is the means by which the speaker and hearer coordinate their mental reference to things and events in a discourse. [A] lexical noun or verb merely specifies the type of thing or process. A nominal or a finite clause designates a grounded instance of a thing or process type [...] The difference between a type and an instance, I suggest, is that an instance is specifically thought of as occupying a particular location, in contrast to other instances. In the case of things, it is most commonly space that functions as the domain of instantiation. [...] In the case of processes it is always time.
> (Langacker 2009: 86)

"At least in English, clausal grounding locates a process [within the semantic "field"] in relation to reality" (Langacker 2009: 290). A finite clause requires two Conceptualizers: the actual speaker who grasps the meaning of the clause and the second conceptualizer (the EGO), who is a necessary integral part of the clause's meaning who apprehends the profiled proposition, which is expressed by a finite clause (Langacker 2009: 293). Thus the be-going-to in its future form can be viewed as a Special Viewing Arrangement including a virtual representing event (Langacker 2009: 195). "Habitual and generic statements are very much like states, the only difference being that in such cases of generalization it is not so much an actual situation, but rather a cognitive (' virtual ', in Langacker's terms) construct that is made coincidental with the speech event" (Brisard & De Wit 2014: 65).

[11] Although the author would argue that it is a grammaticalizING element, rather than it being grammaticalizED itself.

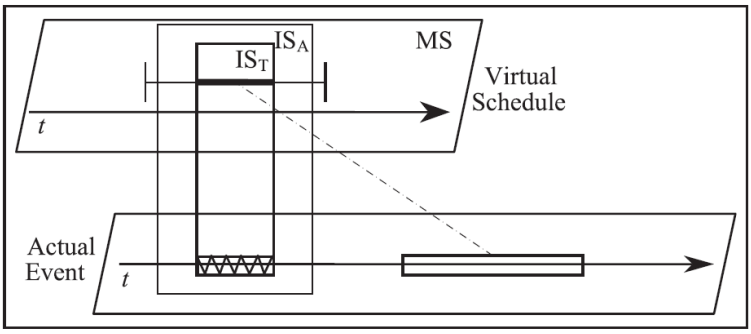

Figure 14. Usage type: Future present progressive (Brisard & De Wit 2014: 74).

There are two types of clausal grounding: through modals and through tense markers. Both usually take the forms of schematic verbs, which are elaborated by the verbal form they appear in conjunction with. The function of tenses is to express the relationship between the lexical verb and the moment of speaking. The simplest distinction that can be made designates three general scenarios: "before", "during" and "after" the moment of speaking. Modals on the other hand, though functioning in a similar fashion, ground the predication within the interlocuters' conception of reality. In their process of grammaticalization, the lexical meanings of these verbs shifted higher up the schematicity hierarchy and thus assumed the role of contributing more generally to the situational meaning of a clause as a whole. The basis of this was the construal inherent in their lexical meaning, which was initially ungrounded. In the process of grammaticalization, however, the construal of that same predication undergoes a qualitative change, by force of which the ground becomes included within the predication scope, without being necessarily in direct connection with it (Brisard 2001: 271-2). That is the reason why a true finite clause requires a grounding predication. Thus tense markers can combine with modals to form finite clauses, because the tense markers themselves provide the grounding required by the predication. A true modal, however, does not require them (or at least not in their full form), because the grounding relation has already been incorporated within the modal. Remaining tense distinctions usually adopt functions other that temporal (realis), such as hypothetical action (Brisard 2001: 272).

The significance of using three verbal forms to relay the information to the speaker is that the auxiliary "be" transmits the information that the conceptualizer is already in a state, therefore we can surmise that C entered that state before the moment of speaking, the imperfectivizing

nature of the progressive indicates that the process is still ongoing and the combination with an infinitive in a furthered setting indicates that the completion of the intended occurrence lies beyond the scope of the current expression in VT.

> [T]he use of the present progressive, rather than the simple present, can only be motivated by referring to EXTRA-TEMPORAL concerns on the part of the speaker. In those cases, we posit a modal, rather than temporal, motivation for using the present progressive. [...] The term 'temporal usage type' might be somewhat misleading, as it could suggest that these are strictly temporal and thus non-modal usage types, […] however, that temporal coincidence is regarded as an elaboration of the modal schema of the English present progressive in terms of contingency in immediate reality – a meaning that should be present in all of its uses.
> (Brisard & De Wit 2014: 69)

6.4. Schematic representation

What is revealed by our careful attempt at a dissection of the three main stages of the *be going to* construction under a CG microscope is that the three are conditionally different, albeit overtly nigh identical. In the diagrams below, largely based on the literature reviewed in the previous sections, the following abbreviations and symbols are used:

"A" for *action*	"S" for *speaker*	"G" for *ground*
"H" for *hearer*	"IS" for *immediate scope*	"tr" for *trajector*
"R" for *reality*	"OS" for *on-stage* [*region*]	"lm" for *landmark*
"RC" for *reality conception*	"MS" for *maximal scope*	"C" for *currently available condition*
"VT" for *veridical time*	"p" for *proposition*	"C_2" for *future condition*
"MP" for *metaphorical path*	"∃" for *conditional function*	"{ }" for *scope of the predication*

"R_{impf}" for *incomplete reality (imperfective action)*

We need to take into notice, however, that the reasoning behind Langacker's choices of graphic elements is rarely explained and often taken to be self-evident, which it is not. Furthermore, Langacker uses the same types of graphic elements for representing different linguistic units at different levels of analysis, i.e. – rectangles can be utilized as denoting a *scope*, a *domain* or a *locus*; circles can denote the slot for the *patient*, but also the *actor*, or an abstract entity, such as a *conceptualizer*. On a phrase level they can be used to denote heads and modifiers. Therefore,

the attempt at the graphic representation of the different stages of *be going to*'s grammaticalization displayed the insufficiency of Langacker's graphic representation system, where such complex assemblies are almost entirely avoided. Nonetheless, this thesis makes an attempt at utilizing the toolset of graphic representations used in CG to try and depict the conceptual changes associated with the construction's use. Wildgen offers the following summary of his criticism of Langacker's graphic approach:

> The imaginistic language used is neither systematic, not conclusive and rests only on an intuitive perception of a possible relation between pictorial schemata and linguistic expressions.
>
> - Those imaginistic representations which are intuitively plausible cover only a small subfield of the lexicon and of basic syntax.
> - There is no theoretical account of how the images may be constructed, they are mere illustrations based on a set of vaguely defined conventions.
> - The enormous possibilities of space-oriented modelling using geometry, topology, differential topology and other mathematical models, which have dealt with similar conceptual problems (partially since antiquity) are systematically ignored.
> - The epistemological claim that grammar must be independent of mathematical techniques is incompatible with the integration of standard techniques used in generative grammar, as these are based on algebraic concepts and not on "natural" categories.
>
> In order to make the programme of "cognitive grammar" which Lakoff and Langacker have proposed convincing, a new generation of precise and systematic tools must be developed which allow for theoretical elaboration and an empirical concretization of the programme. "
>
> (Wildgen 1994: 38)

Although our graphic schemas use Langacker's representations as a basis, that has been done in as a consistent way as technically possible to try an compensate for the above-mentioned flaws to at least some extent.

STAGE I.

I am going [now] **to visit Bill.**

I am in the process of going towards Bill to perform the action of visiting Bill, which constitutes me being in a space closer to him, different from my usual space or the space the speech act takes place in.

> The immediate scope imposed by the progressive is purely aspectual, i.e., non-grounding: it does not make any specifications about the relation between the profiled situation and the time of speaking, as opposed to the immediate scope imposed by tense markers (Langacker 2001: 259). Hence, present-progressive constructions are characterized by two immediate scopes applying to different levels of organization – one scope (ISA) is intermediate aspectual, the other (IST) is temporal and represents the final step in the process of grounding a clause. First, the –ing participle profiles a derived imperfective situation, by imposing ISA on an originally dynamic configuration. Next, the present tense, marked on the auxiliary be, imposes the second immediate scope IST WITHIN ISA, coincidental with the time of speaking (Langacker 2001: 260). This second immediate scope thus applies to a configuration that has already been imperfectivized. [T]he resulting profile (i.e., focus of attention […]) is a representative segment of an imperfective, state-like situation, coinciding with the speech event.
> (Brisard & De Wit 25)

The irreconcilable thing in the above description is the fact that the imposition of the -ing form precedes the imposition of the verb be. Should we assume the logic that a *state* is construed in terms of a metaphorical position *within a state* and that a verb is construed as the tracking of that state over time, then it would be logical to assume that the *stacking* of concepts would also tend to occur in that order. Considering the fact that English is an SVO language, the phenomenon of right-displacement of new information and the fact that the finite verb of a clause cannot be omitted, while the imperfective forms can, the above claim needs to be re-examined. Expressed in metaphoric terms, this would be akin to proposing building the roof of a house before the foundations. As an alternative I propose that the grounding of *be* remains in place, while the progressive is inherently ungrounded. They are, however, indirectly connected by virtue of their co-occurrence. In this case the process outlined by the lexical verb (*visit*) is still

considered internal to the predication headed by *be* – it is a natural extension (⟶) of the already running action.

{A = R_{impf}}

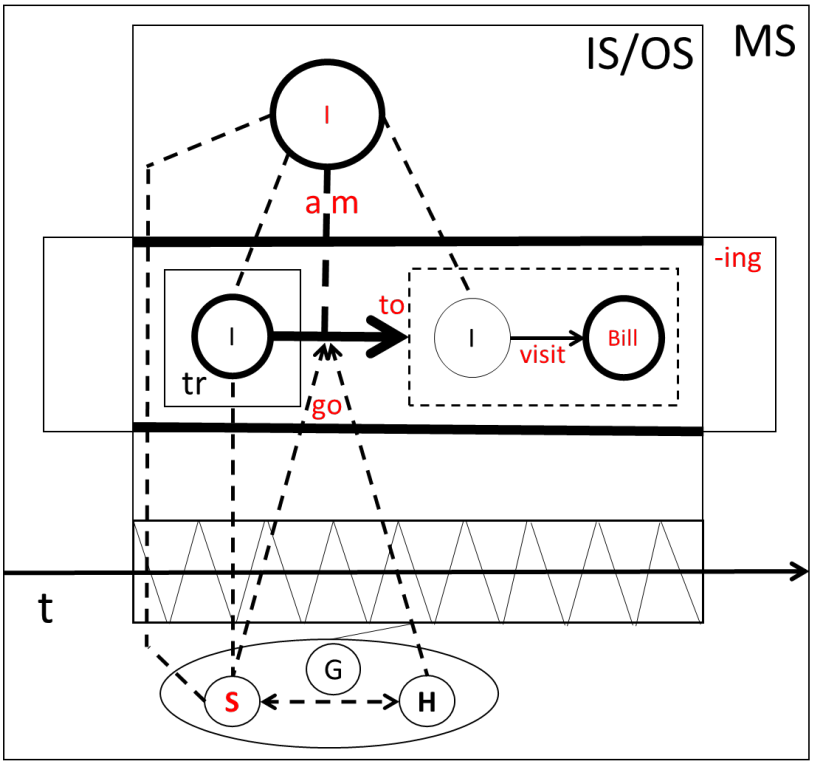

Figure 15. Graphic representation of Stage I.

STAGE II.

I am going to visit Bill [at a point in time in the future, if the situation remains unchanged]

I have planned to go visit Bill, and those plans will come to fruition, unless other circumstances arise. The explicit decision to fulfil the action in question has not been concretely taken. Induction → if no more information → same.

The proposition maps onto the RC timeline (MP), but not onto Reality in VT. The grounding is still only attached to the verb "be". As the Purposive statement has now transformed into a proposition (of decreased certainty as a result), and has moved outside the RC, it creates

tension and requires the application of force (⇢) for its apprehension, which however is of undetermined status (-/+).

$$\{A = R_{impf} \ni +C\ ;\ -C_2\}$$

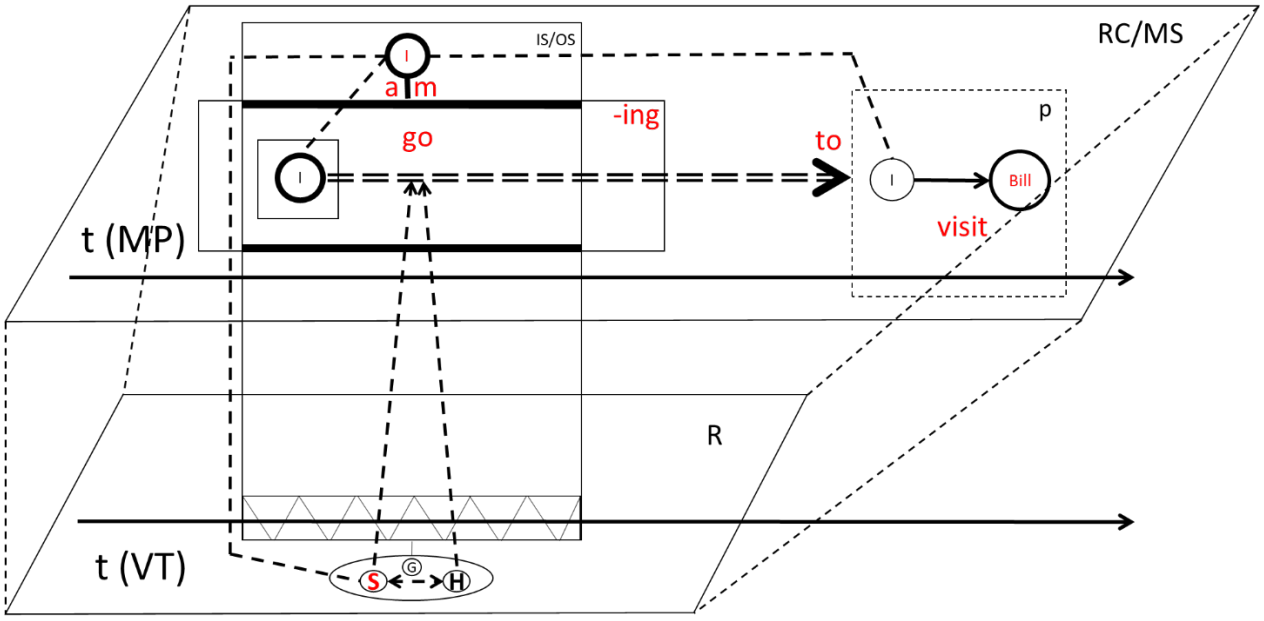

Figure 16. Graphic representation of Stage II.

STAGE III.

I am going to like Bill. [certainly, in the future]

The state in question will be actualized <u>if</u> a condition is fulfilled: a specific state of affairs needs to be present for the process to occur, i.e. the action has been explicitly planned.

So: $\{A = R_{impf} \ni +C\ ;\ +C_2\}$

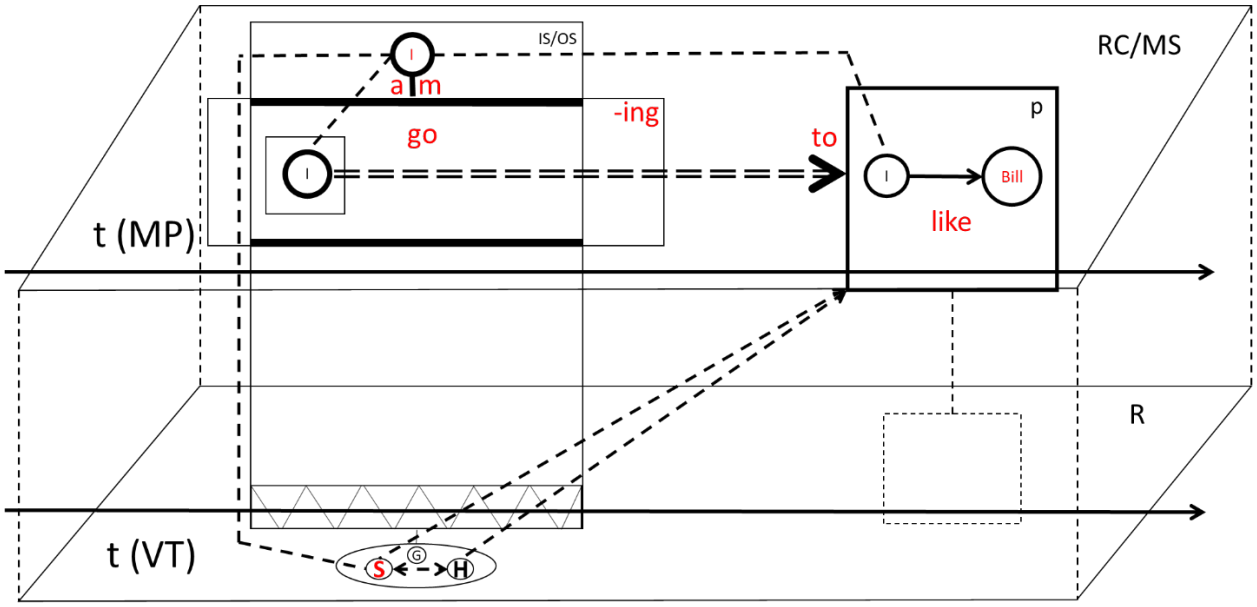

Figure 17. Graphic representation of Stage III.

The "now" of the EGO can be in any temporal relation to the present of the speaker. In VT it is a relevant point in time and on the MP it is identical with EGO's location. Tense designates EGO's position in VT and therefore the entire motion scenario is under its scope. The verb determines the profile of a clause (cf. Langacker 1991: 171–172). Since verbs designate processes, they intrinsically include an idea of duration and time. Only motion verbs profile motion events that signify a change of the trajector's position in relation to one or more landmarks. In this scenario a distance is equated with duration, because the performance of the action of motion has a scope in time, however "grammatical systems such as the progressive, which is typical in EGO-CENTERED metaphors, set the two apart" (Huumo 2017: 39).

In Figure 14., representing Stage III., the hypothetical event maps onto the future in VT with greater certainty as an extension of the current validity of the action already being in process of being performed. The proposition is apprehended. The grounding of the periphrastic construction is in actuality more complex and gives rise to problems when one attempts to represent it. One possibility is that the grounding inherent in the present tense of *be* becomes extended to the proposition, by virtue of its mapping on VT and its rendering as more constrainedly conditional and the other would be the direct grounding of the lexical verb forming the proposition Any construction utilized for the description of temporal relations "impose[s] an immediate temporal scope, i.e. they direct attention to a particular span of time

for purposes of viewing the profiled clausal process" (Langacker 2009: 191). Thus the other major difference is that, by virtue of the proposition being apprehended and the resulting increase in the surety of its occurrence, the attention shifts from the current process to the process of the proposition. It is also very probable that the grounding is not entirely fixed in the first place and it is flexible and can vary depending on a) the particular pragmatic situation (as we saw in the examples given by Brisard) and on the meaning of the lexical verb which forms the proposition itself, which may or may not require grounding.

This observation is curious, as one possible interpretation is that it is the focus of attention that manages the *force* of the grounding, rather that the grounding occurring first and thus directing the focus of attention. This is yet another dimension of analysis where we encounter evidence for a meaning-first change. It also fits well with the notion that the inception of meaning takes place in a non-hierarchical way and is only assigned hierarchical schematicity afterwards. This is an idea also present in psychology and first put forward by Carl Jung, who proposed that dreams are the "birthplace of meaning". Natural meaning-formation is not much unlike dreaming, as it is a generally abstract, unconscious process, which then needs to be operationalized in some way so that it becomes communicable.

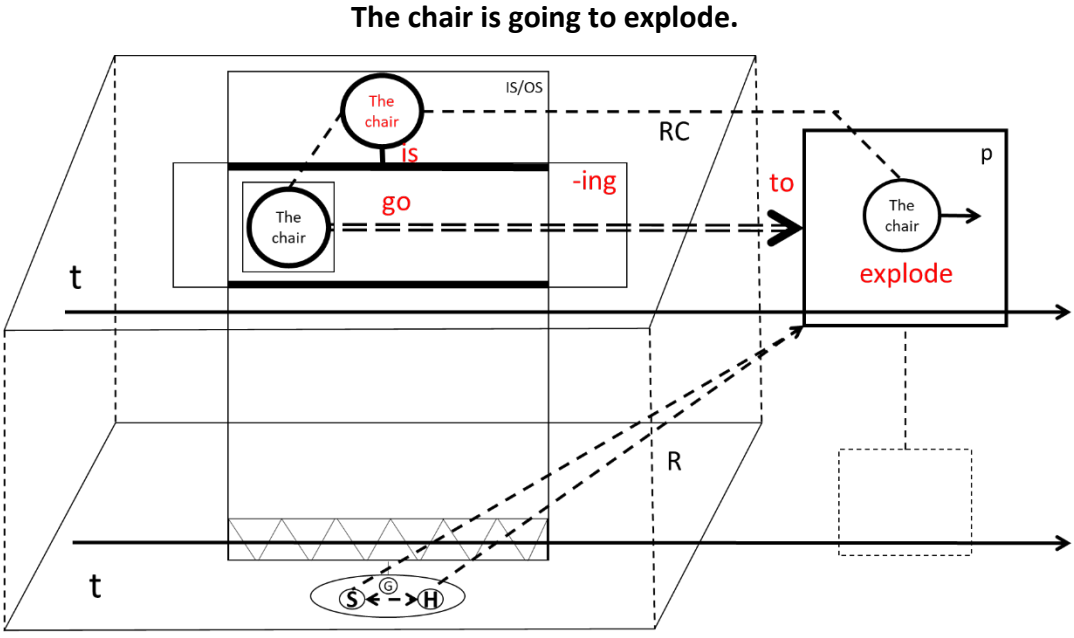

Figure 18. Stage III. with inanimate subject / unaccusative verb.

When the subject is an inanimate patient, however – we can observe a much more straightforward example of the future use, where it cannot be disputed that be going to functions as an auxiliary. When the subject is inanimate, then the question of intention disappears, as inanimate objects cannot have a will to act or not to act. If the subject is a patient - the identification between the speaker and the subject is not present. The above graphic example combines these two to portray the inevitability associated with the event in question – its conditionality is very low, there is very little to no doubt that it will occur. Hence the expression no longer conveys purpose or intention, but rather the observation of a fact.

> Waking thought sacrifices completeness for coherence, [...] whereas dream thought sacrifices coherence for completeness. [...] Precise thought excludes too much […] and imprecise thought is not sufficiently coherent. So, we [humans] do both: precise thought, [based in the] left hemisphere [of the brain is] linguistically mediated, sequential, logical; [the] right hemisphere [is responsible for] incoherent, but complete thought, imagistic, emotion--based. The right hemisphere even has a more diffuse structure. It's like the right hemisphere is trying to get a picture of everything. Now, it's not going to be a very detailed picture, it's a picture of everything - full of contradictions - but at least it's a picture of everything! And the left [hemisphere] says: "That's not good enough for precise action". And it's not! So we will narrow that to precision. But we lose the richness. But you need both. So there is an interplay.
> (Peterson 2017: 58:00 – 59:00)

7. Data analysis

7.1. Criteria

7.1.1. Identifications and representation issues

As we saw in our discussion above, it is not so straightforward to decide which of the three grammaticalization levels described by H&T an example of *be going to + verb* belongs to. It so appears that the use of *be going to* as a purposive clause (Stage I.), intentional non-action (Stage II.), or future marker (Stage III.) is contingent to the level of conditionality (i.e. the likelihood of the event occurring) implied in its use. However, a substantial problem impedes the empirical study of the three stages: they are almost indistinguishable on the phrase level, with the exception of the type of verb used. Therefore, the conditionality of the constructions' use depends to a great extent on the context, rather than being intrinsic to the constructions

themselves (except in cases where the level of conditionality is obvious, such as when the subject is a patient). A viable solution would be to qualitatively analyze the co-text of each example as to determine the level of conditionality of the construction and consequently its relative position on the grammaticalization cline (thus assigning it to a stage).

Looked at from a syntactic point of view, the problem of identifying the three stages outside of context is not resolved either. For example, H&T define Stage I. as the *going* introducing a purposive clause. Guerrero (2013: 3) distinguishes between three types of purposive clauses and further stresses the importance of epistemic control:

> The main task of any theoretical model applied to purposive constructions is to account for the control of the non-lexical elements in a regular way. Most commonly, control is determined in syntactic terms, i.e. subject, object […], but it can also refer to thematic roles, i.e. agent, theme, patient, instrument […]. Consistently, the pivot or controllee is defined as a syntactic gap. […] [There are three types of purposive clauses in English]: object-gap, subject-gap, and in order -clauses. In all of these, the empty elements in the linked unit are, more or less, referentially dependent on overt NPs inside the matrix sentence (Jones 1991 : 25). (4) Obligatory control relations of empty slots in purpose clauses a. Object-gap clause (OPC) Mary i brought John j along [__ i/k to talk to __ j] b. Subject-gap clause (SPC) Mary i brought John j along [__ j to talk to her i] c. In order -clause (in order -PC) Mary i brought John j along in order [to __ i talk to him j]
>
> (Guerrero 2013: 3)

But, crucially, here we are confronted with the same problem – the expressions are structurally identical. Albeit they may be analyzable in different ways, that does not change the fact that distinguishing them from one another is a significant empirical problem. Hopper and Traugott's schema suggests that the only difference between stages II. and III. is the use of a verb of action versus any verb really. This makes the practical distinction between the two stages on the phrase level nigh impossible unless one narrows down the definitions and sets down that these criteria are what exclusively define the stage-specific type of usage (e.g. II. or III.).

According to H&T the purposive sense within the construction stems from the *to* (*ibid*. 2003: 87). The purposive sense is gradually eroded and substituted by intention by virtue of the association of the *to* with the *be going* instead of with the following verb. This, however, does not provide us with any practical means for discovering Stage I. examples (at least on the phrase

level), though we can speculate that it is more likely that *be going to + any verb* was used in a more prevailingly purposive sense until the first large spike in usage with verbs (around the 1640s). "[T]he epistemic meaning of […] modals [can be regarded] as deriving from the tendency to experience the physical, social, and epistemic worlds in partially similar ways. This similarity in experience […] allows the mapping of sociophysical potentiality onto the world of reasoning" (H&T 2003: 86).

Another issue is that all processes (in CG generally taken to be the cognitive content of verbs (Langacker 2009: 9)[12]) require time and space to exist – they cannot be separated from those, except in the cases where the location is of little (apparent) significance (as all processes require time as a basis). In the end the context dependency is the real key. Without the context we cannot distinguish between a more or less conditional usages, because, without any additional information, the construction is both and neither at the same time. It simply cannot be extracted from its context and labelled as Stage I. or II. or III., because without the context it simply does not contain enough information for that. It is ambiguous. An argument against claiming such a high-level of context-dependency could be that *be going to* even in isolation evokes associations of intention or futurity. But, in the end, aren't those associations extracted from the database of the speaker's experience of the construction's use in context? Like every abstraction, those associations are low in *schematic resolution* (see **Section 4.3**) and thus difficult to articulate.

As the meticulousness of performing a qualitative analysis would limit the amount of examples, it would automatically limit the weight of any conclusions from a statistical point of view. An alternative would be to try and find criteria that are diagnostic of each stage on the phrase level (or the sentence level at most) and analyze their frequency among the *be going-to* constructions attested at different times according to the EEBO corpus, without relying on the co-text to such an extent. Even though identifying the three stages out of context is a hurdle, considering the large size of the data sample (1944 examples), the second method has been chosen.

[12] Not to be confused with *verbs of process* as part of the Group-3 verbs below. In this case Langacker speaks of the function of verbs as parts of speech in comparison to nouns. What is meant by *verbs of process* in the definition of Group-3 below is specifically verbs where the subject is a patient under any circumstances; unaccusative verbs that do not require an object, like *die, explode,* .

7.1.2. Types of spatial usage

When the *be going to* is followed by a location or place – it is obviously the case of the strictly locative meaning that we can observe. However, there are cases in which the *be going to* is followed by a noun, but that noun is not a place. This reveals an array of subsets of Stage I.: *going to a place* in a strictly locative sense (*going to emaus*), to *a place* or *an object* with an implied activity, with very often a metaphorical or metonymical meaning (i.e. *going to the grave* or *going to bed,* respectively), to *a person* (i.e. *going to the king*), to *a group of people* (i.e. *going to the army*) and to *an event/ an activity/ a state* (i.e. *going to market, going to Mass* or *going to sleep,* respectively). This phenomenon emerged from the initial processing of the data and lead to **Hypothesis 3.** below.

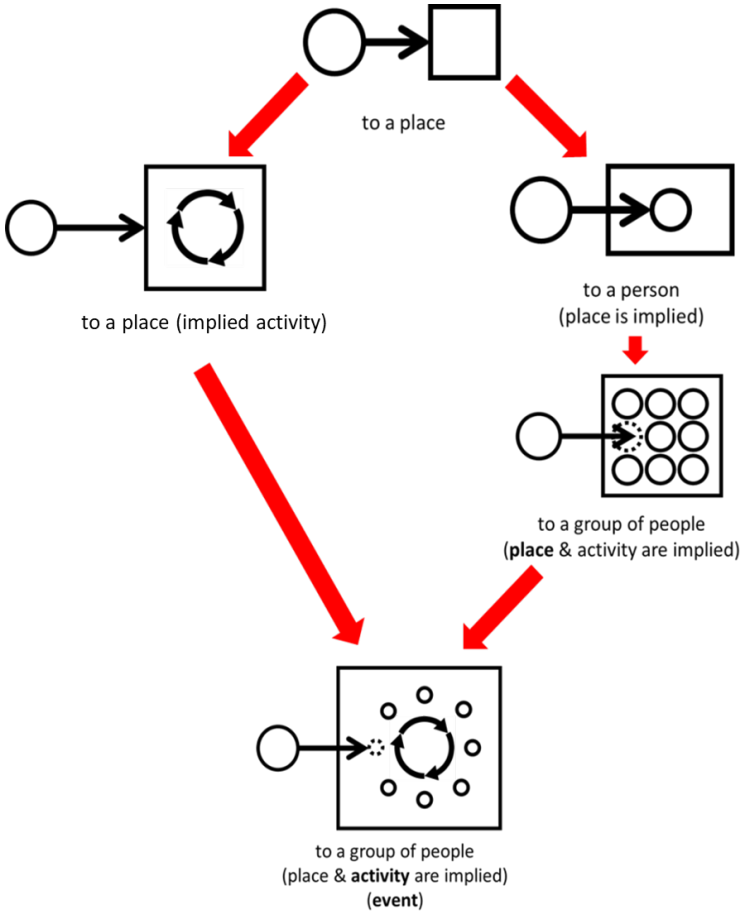

Figure 19. Schematic representations of different types of spatial usage.

to go to church	→ to go hear mass/pray[13]
to go to bed	→ to be asleep
to go to the grave	→ to die
to go to the gallows	→ to die
to go to war	→ to fight

As we can see, and this is confirmed by our study (see **Section 7.3.2**) the *be going to* became more generalized first in its locative meaning and thus open to extension. This extension led to its wider use to relay information in various ways according to the situation. It later also proved useful for the communication of purpose, intention and then futurity, due to its relative conditional nature. Nonetheless, the original locative sense and the future meaning are easier to distinguish. In our analysis, when comparing across stages, we will sum all subsets of Stage I. under one category. Their variance will be analyzed separately.

7.1.3. Usage with a verb

If the *be going to* it is followed by any verb, then it is grammaticalized. To what extent, however, depends largely on the context of use of the concrete examples. The uses of *be going to* to express purpose or intentional non-action are very challenging to tell apart, because they only differ in their parsing. To some extent, Stage I. does not take additional conditions into account, as it is a statement of purpose (answering the question *Why?*), whereas Stage II. has to, if we accept that it denotes intentional non-action (answering the question *What?*). From our discussion this far we learned that the future use implies somewhat more concrete meaning. Albeit conditional, there is more certainty in its potential occurrence. If the established grammaticalization cline for the construction holds true – then examples of Stages I. and II. would be most prevalent, with Stage III. emerging and growing with time.

The following four criteria used to analyze the examples are extracted from our discussion:

[13] This was actually an obligatory practice after the dissolution of the monasteries by Henry VIII., as not coming to protestant mass was considered a sign of being Catholic.

1. if the target is a location or a physical space , a person or persons, or a noun expressing an event/activity/state it can only be pure motion sense (see **Section 7.1.2**).
2. if the *to* introduces a verb it is not 1.
3. if the expression is used by the speaker/narrator to give instructions to the listener/reader – it is Stage III.
4. The construction is Stage III., if
   a) the *to* is followed by the verb *be* the subject of the construction is a patient to a passive (*to be crowned*), or
   b) the subject is an inanimate patient and/or
   c) the *to* is followed by verbs indicating becoming (like *to turn*) or non-action verbs (*love*, *die*, *explode*, suffer etc.).

However, distinguishing the three different stages of grammaticalization on the phrase level is challenging. The above criteria are by no means necessary prerequisites for the assignment of an example to a Stage. Stage I. and II. are even more challenging to differentiate. Therefore, we will take a statistical approach to try and look for any patterns in the distribution of examples across time, based on the type of verb used together with the *be going to*.

Since, as we saw, there appears to be a connection between the amount of agency allotted to the subject in the sentence and the particular lever of conditionality corresponding to the different Stages. This agency depends on the verb used in the expression. In order to perform any analysis based on verb types, however, we first need a functioning classification according to the needs of this study.

A sound system of classifying verbs according to their controllability (level of agency) and transitivity exists in the *Handbuch zur Grammatik der klassischen tibetischen Schriftsprache (Handbook for the grammar of the Classical Tibetan written language)* by Peter Schwieger (2009). Seemingly odd at first glance, the classification of Tibetan verbs in six classes provides a nearly perfect template for differentiating the levels of conditionality associated with each class (adapted from Schwieger 2009: 76 - 83):

Table 5. Verbal groups in Classical Tibetan (adapted from Schwieger 2009: 76-83).

	Transitive	Intransitive + oblique object	Intransitive
■ Controllable (S= *agens*)	**1. ■ Verbs of action** to do, to make ***subject + direct object***	**2. ■ Verbs of controlled perception** to listen, to look ***subject + oblique object***	**3. ◪ * Verbs of motion** to go ***subject + adverbial mod.***
□ Non-controllable (S= *patiens*)	**4. □ Verbs of knowledge, perception, cognition, acquisition** to hear, to see ***subject***	**5. □ Verbs of state/process** to be full of, made of, separate from, happy about, to do* ***subject + oblique object***	**6. □ Verbs of "suffering", passive action** to die, to suffer ***subject***

Controllable verbs imply that there is a clear direction to the process in question – a conception very similar to that of motion through physical space – the metaphorical path of moving towards the completion of the action – therefore the doer of the action necessarily needs to apply force in order for the action to be completed. As the grammaticalization progresses, the application of force is no longer a requirement and the expression becomes extended to situations where the subject becomes a patient or sufferer of the action, rather than its voluntary performer.

Since distinguishing the different stages on the phrase level or even of the different types of purposive clauses is sometimes impossible (notwithstanding criteria 3. & 4.), the general trend in the change of usage could be observed in the frequency of types over time. For that purpose the verbs will be separated into three groups according to their degrees of transitivity and controllability and their distribution mapped across time:

Group 1. Verbs of action, controlled perception and motion

Group 2. Verbs of knowledge, involuntary perception, cognition and acquisition

Group 3. Verbs of state, process and suffering

Combined with the four criteria discussed above, a plotting of the frequency of these verb groups across time has the potential to provide us with a time frame for the different stages of the grammaticalization of *be going to*.

7.2. Predictions

Hypothesis 1. Initially, the Group-1 verbs will be of higher frequency in relation to Groups 2. and 3., as they are conceptually closest to the physical notion of a place or an activity and most often denote purpose. Then the gradual emergence (presumably across at least several decades) of the usage of non-controllable verbs of Group 3. will point to the adoption of the phrase[14] for the exclusive expression of tense and give some indications as to its frequency in relation to other uses.

Hypothesis 2. If we accept that the grounding (i.e. the reference point for its meaning) of the *be going to* construction (see **Section 6.3**) really originates in the spatial meaning of *be,* we should then observe an increase in the more metaphorical forms of *be going to* usage as time progresses (both spatial at and plus verb). The prediction is that there will be an overall rise in the more abstract usages of the construction with a strong correlation between the more abstract types of spatial usage (i.e. *be going to + person(s)* and *be going to + event/activity/state*) and the *be going to + any verb*.

[14] Here, the corpus limits the scope of any possible conclusions, as on its basis no claims about the spoken language can be made.

7.3. Statistical analysis

Now we will look at results of the statistical investigations done on the data. One of the main goals of the statistical analysis was to determine how the values of the core variables (Stage as far as the theory permits, Verb Group, 1st, 2nd, 3rd and 4th Criteria) change over time. For this purpose, new variables were introduced that contain the frequency of each of the original variables' categories per decade.

Although it would have been possible to calculate frequencies per year, this was not done because some years contain a single data point, which would make the calculation of averages impossible. The introduction of the frequency variables also served the purpose of allowing for certain statistical methods to be used, namely the Pearson correlation and Linear Regression, as the original variables were qualitative and therefore nominal in nature.

It should also be noted that, for the purposes of the correlation analyses, the decades until 1580 were omitted, as they contain too few examples per decade, creating a cluster of values around 0, which, in most cases, is in contrast with the general relationship we will see can be observed between the variables. With such a low number of examples per decade, the relative frequencies vary too much and create artificial outliers. Those outliers can be easily explained with the unavailability of examples in those decades and do not represent special cases.

7.3.1. Hypothesis 1.

According to H&T's model, first the usage of *be going to* with action verbs (Group-1) arose and, as the degree of grammaticalization of the construction increased, the construction began being used with non-action verbs (Group-2 and Group-3) as well. We theorized that, at first, if that were true - Group-1 verbs would predominate and the other two groups would emerge gradually. This entails that they be positively correlated and display the same patterns diachronically. This is, however, apparently not the case.

The most significant spike of Group-1 verbs occurs between the 1630s and the 1640s where their raw frequency doubles. The second, slightly lesser increase is between the 1680s and the 1690s (from 102 to 130 observed instances). Group-2 verbs and Group-3 verbs follow

generally the same pattern of a later onset and a much more gradual increase, but from the 1630's onwards display a negative correlation with Group-1 verbs.

We can observe a steady rise in the usage with Group-3 verbs from 1580s (2 occurrences; 3% of total) to the 1630s/40s (7-8 occurrences; 4% of total usage) to the 1670s (24 occurrences; 12% of total usage). Group-2 verbs also peak at the same time (1650s; 3% of total usage). However, in the last two decades of the 17th century both diminish: Group-2 verbs decrease to 1% and Group-3 verbs to 9% of total usage, together with spatial usage, which decreases from a highpoint of ca. 80% of the total in the 1610s to half that (ca. 40%) in the 1660s and again by almost half by the 1690s (down to 26% of total usage).

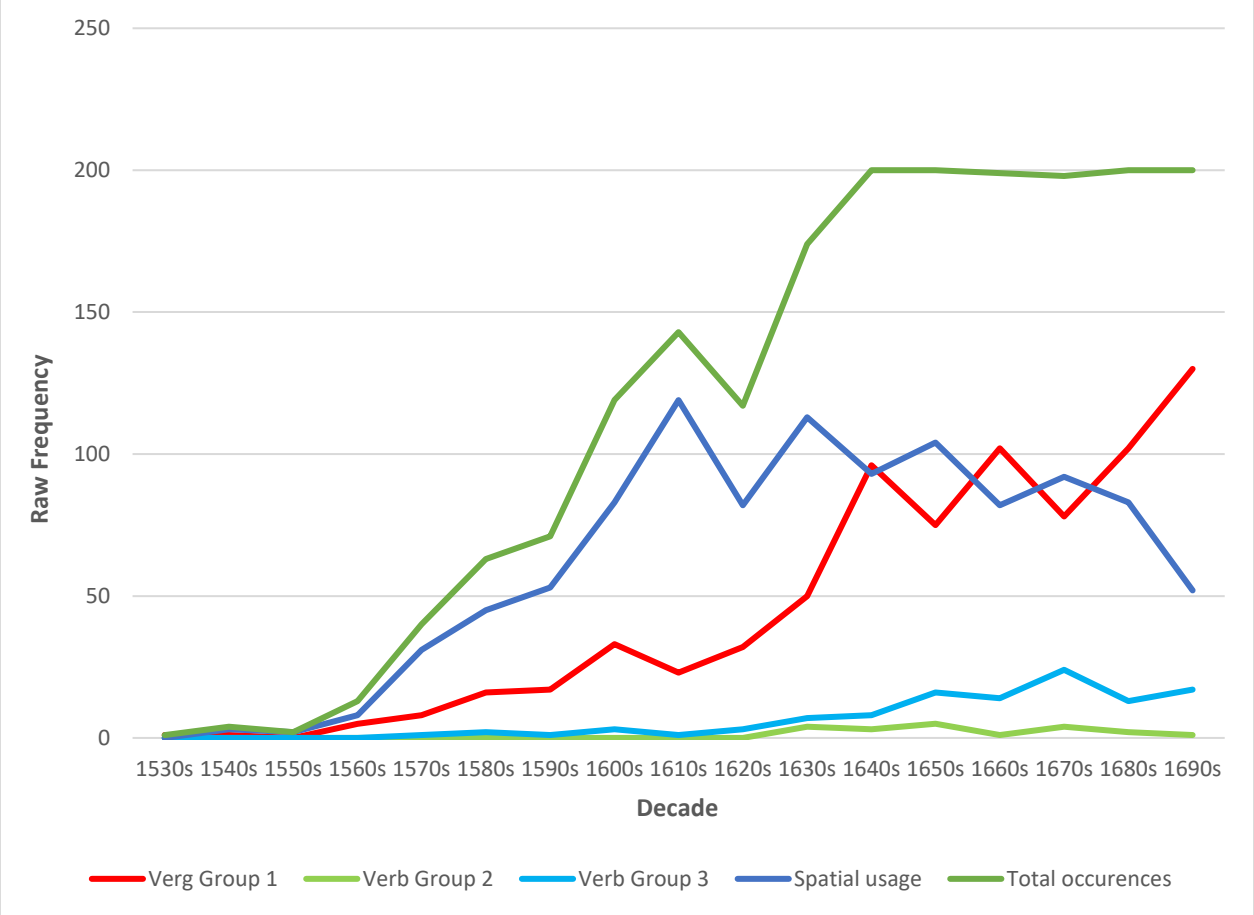

Figure 20. Verb groups per decade (raw frequency).

The ratio of Group-1 verbs to Group-3 verbs is on average 4:1. It should be noted here that the first observations in the dataset of Group-3 verbs appear in the 1570s, representing only 3% of

the verbs used with *be going to* in that decade in our sample. In subsequent decades the frequency of Group-3 verbs relative to all other instances of *be going to* in the sample increases steadily, but it would not be until the late 1670s when Group-3 verbs reach their peak (12% of total usage in the sample).

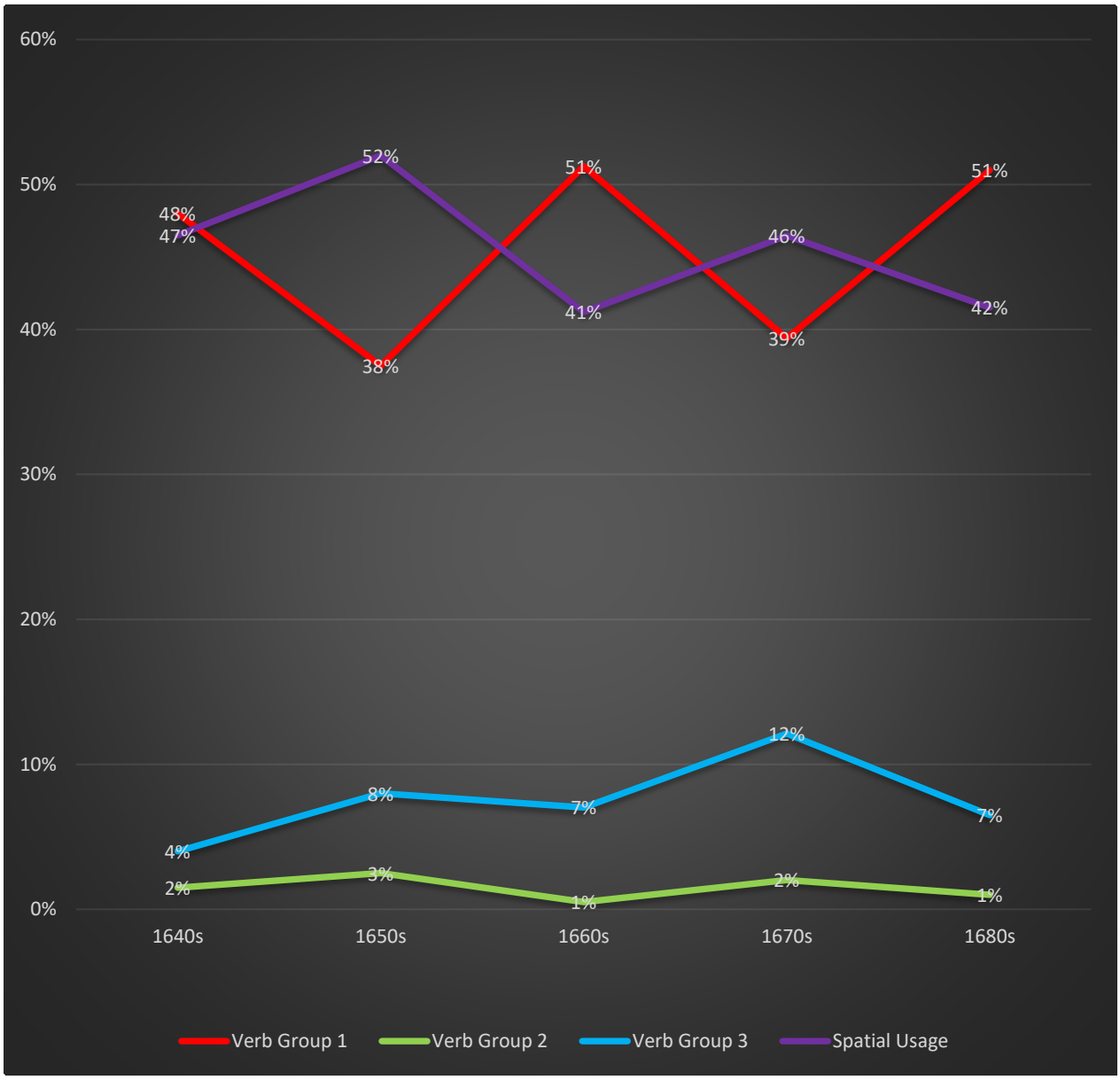

Figure 21. Developments in the usage of *be going to* from the 1640s until the 1680s (in %).

A moderate to strong positive Spearman Correlation was observed between the raw frequencies of all four categories of the Verb Group variable, which were also highly significant, as can be seen in the table below:

Table 6. Correlations between the raw frequencies of Verb Groups (*one*, *two* and *three*) and usage without a verb (*zero*).

			one	two	three	zero
Spearman's rho	one	Correlation Coefficient	1,000	,751**	,934**	,663**
		Sig. (2-tailed)	.	,001	,000	,004
		N	17	17	17	17
	two	Correlation Coefficient	,751**	1,000	,822**	,636**
		Sig. (2-tailed)	,001	.	,000	,006
		N	17	17	17	17
	three	Correlation Coefficient	,934**	,822**	1,000	,644**
		Sig. (2-tailed)	,000	,000	.	,005
		N	17	17	17	17
	zero	Correlation Coefficient	,663**	,636**	,644**	1,000
		Sig. (2-tailed)	,004	,006	,005	.
		N	17	17	17	17

**. Correlation is significant at the 0.01 level (2-tailed).

This correlation, however, does not speak of anything conclusively, because of the general rise in the data in later decades. Therefore, we cannot conclude whether there is any explicit relationship between the prominence of the different verb groups in collocation with *be going to* on this basis.

That being said, two periods emerge as worthy of notice: from the 1590s until the 1610s the proportion of spatial usage to usage with verb fluctuates by about 10% with an average ratio of 3:1. The amount of examples, however, doubles (from 71 in the 1590s to 143 in the 1610s), and from 1640s to the 1680s, where we see regular fluctuations in the proportion of transitive (Group-1) verbs compared to that of passives and the spatial usage of the construction.

These fluctuations form a clear trend in the development of the usage of *be going to* with action (Group-1) verbs that correlates negatively with the other uses and especially with spatial usage. Between the 1640s and the 1680s the frequency of usages with Group-1 verbs decreases/increases by an average of 11.5% per decade to the benefit/detriment of both the usage with Group-3 verbs and spatial usage. Correlations between Group-3 verbs and the more

abstract types of spatial usage were also observed, which not only confirms Hypothesis 2., but also provides us with additional details (see **Section 7.3.2**).

We also made the prediction that the frequency of more metaphorical usages would increase with time. We additionally assumed the grounded part of the *be going to* construction's meaning to be in the existential verb *be*. Therefore, it would follow logic that, as the usage of the *be going to* construction becomes more metaphorical and schematically further removed from its base meaning, i.e. it beginning to be used more and more with verbs of action rather than passives, or in spatial usages that imply an activity, the frequency of these two usages would drop. This would happen because the new grammaticalized construction gradually takes over the role of representing purpose, intention and future from the other two.

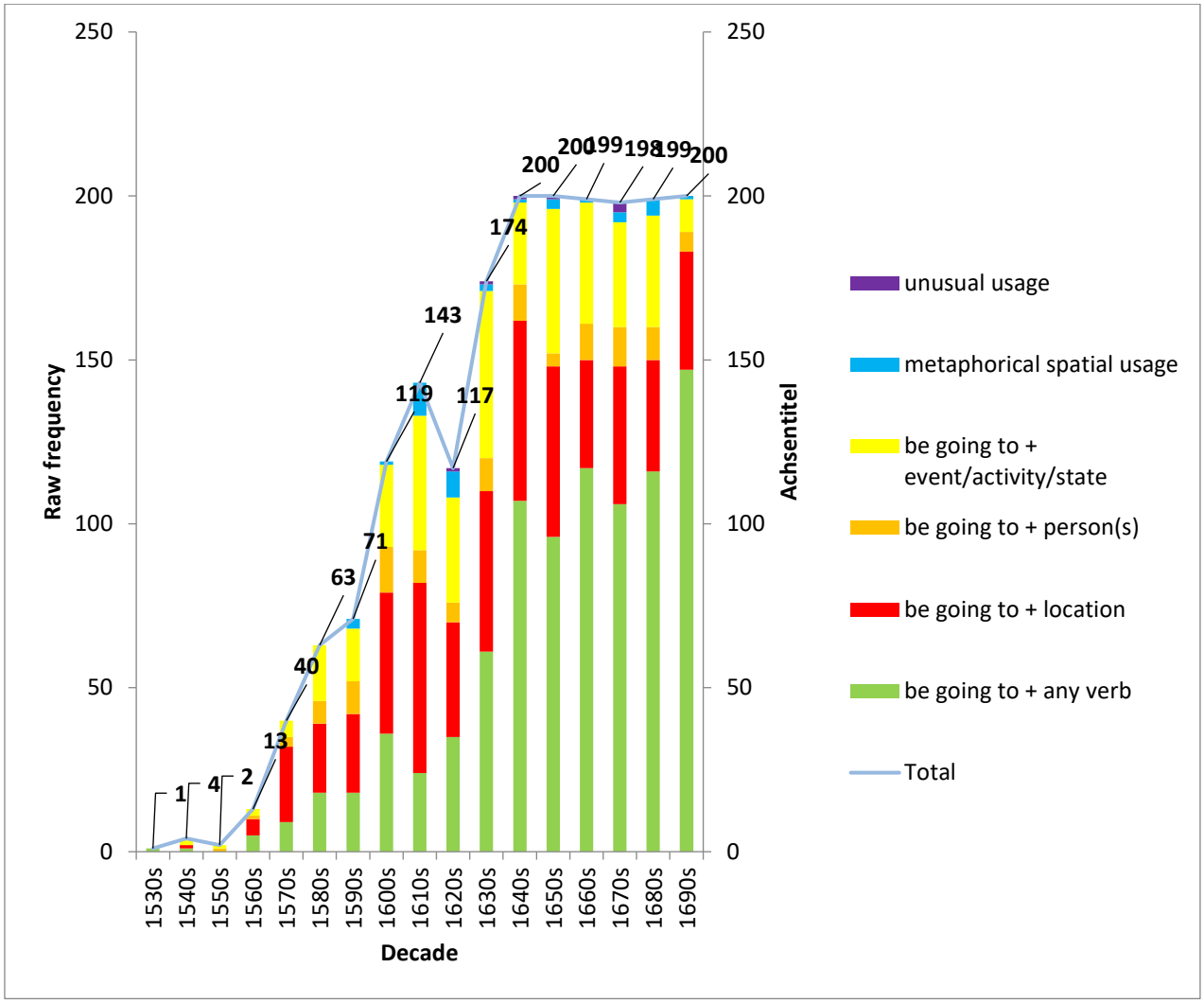

Figure 22. Spatial / Non-spatial usage by decade (raw).

Until the last included decade (the 1690s) the Pearson correlation coefficient between all known Stage III. examples as a part of all examples of *be going to + any verb* and *be going to + event/state/activity* as a part of all spatial usage is 0.46. However, with the 1690s taken into account the same coefficient drops down to 0.3449. On the surface this would seem to point that the 1690s are a significant moment of change. In order to test the validity os this assessment, a statistical test was conducted to determine if a correlation exists between all known Stage III. examples in the data set as a percentage of all examples of be going to + any verb and the three variables representing the three types of spatial usage (*place, person(s), event/state/activity*) as a percentage of the sum of all spatial usage examples together, resulting in negative Pearson correlation coefficients in all three cases.

This was also done in order to test the hypothesis that the more metaphorical usages of the construction (spatial or otherwise) would increase with time. Although two of them were above -0.3 in terms of their absolute value, indicating a moderate correlation (-0,325 for *be going to + place*,- 0,083 for *be going to + person(s)* and -0.344 for *be going to + event/activity/state*), none of them proved to be significant, with p-values far exceeding even the 0.1 significance level. This tells us there is no detectable connection between Stage III. examples and any *particular* type of spatial usage, at least on the basis of the criteria used.

7.3.2. Hypothesis 2.

It was tested if the *be going to + any verb* category correlates with the five categories of spatial usage (*place, person(s), event/state/activity, metaphorical usage* and *unusual usage*). According to our predictions, we should expect to see stronger and more significant positive correlations between instances of *be going to + any verb* and spatial usage types 1, 2 and 3 respectively due to the increasing levels of abstraction they represent (see **Section 7.1**). The Pearson correlation coefficient indeed increases from -0.449, to -0.584 to -0.779 respectively, indicating an increasingly stronger, but interestingly negative relationship. In addition, the correlations become increasingly more statistically significant. Although the first correlation is insignificant with a p-value of 0.43 (for *be going to + any verb* with *be going to + place*), the p-value drops to 0.01 (for *be going to + any verb* with *be going to + person(s)*) and finally to 0.001 (for *be going to + any verb* with *be going to + event/activity/state*). This indicates that rather than both the

more abstract spatial usage and the usage with a verb increasing together, the usage with a verb increases at the expense of the more abstract spatial usage. Taking these results together with the ones we discussed in the previous section we can conclude this is largely due to the usage with Group-1 verbs. At the same time we can observe an increase in the basic spatial usage of *be going to + place as well*.

Based on the low number of values and the conducted statistical tests, we can conclude that Categories 4 (*metaphorical usage*) and 5 (*unusual usage*) do not correlate with *be going to + any verb,* as was expected.

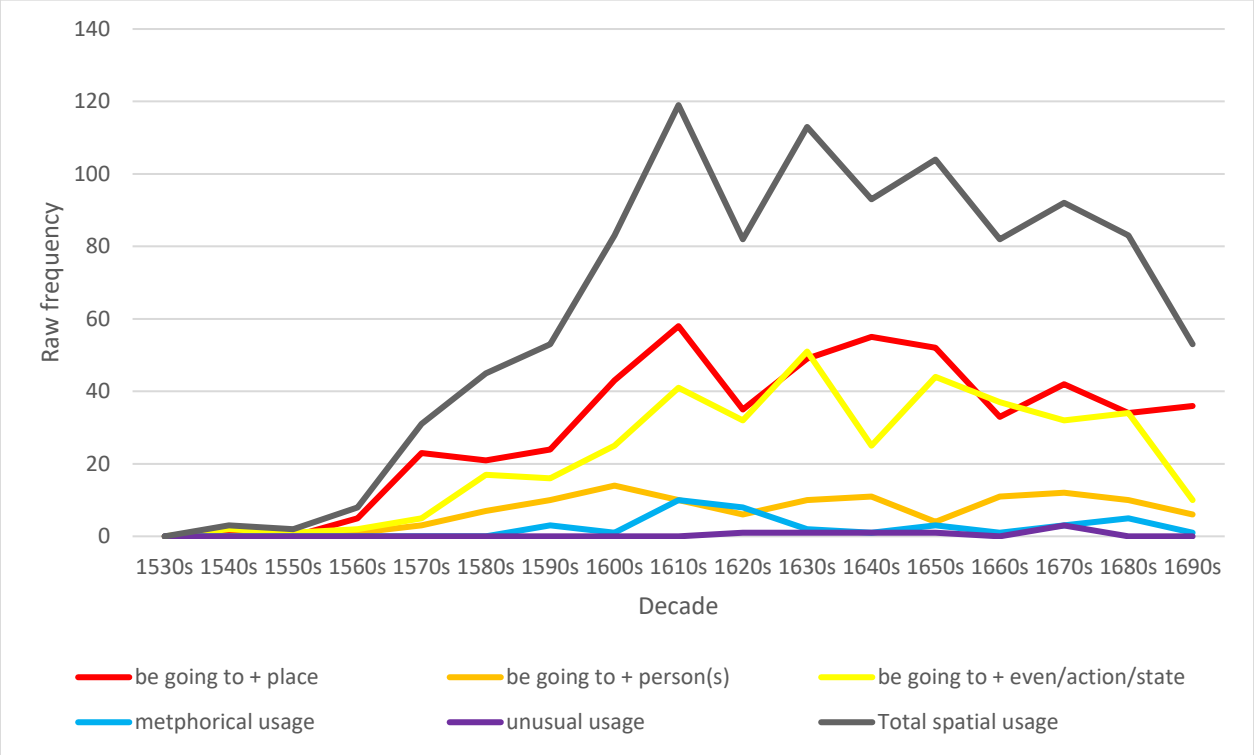

Figure 23. Chronological development of spatial usage types.

The overall impetus of the grammaticalization process can be observed in the spike of instances of *be going to* in the second half of the 16th century. The simultaneous increase of the *be going to + place* (or default spatial usage) after the 1610s and the much more abrupt one after the 1680s indicates a general turn to a more basic lexical meaning once again after reanalysis, i.e. – the more metaphorical spatial usages that functioned as indicators of purposiveness, intentional non-action and future tense to varying degrees in the decades before, as well the use of be going to with Group-2 and Group-3 verbs begin to diminish and the construction's use with

action verbs becomes significantly more established. On the basis of what we discusses so far it can be proposed that the main stages grammaticalization processes had already largely taken place by the 1690s.

7.3.3. Additional findings:

As far as criterion 4 is concerned (i.e. whether a verb is a passive, has an inanimate subject or is a non-action verb/ verb of becoming), it also grows steadily together with the increase in general usage, maintaining a value of an average 10.17% of all examples in the data set per decade. Passives form an average 5.33% of all usage with a verb in the sample per decade, inanimate subject occurrences 1.33% and non-action verbs or verbs of becoming 3.50%.

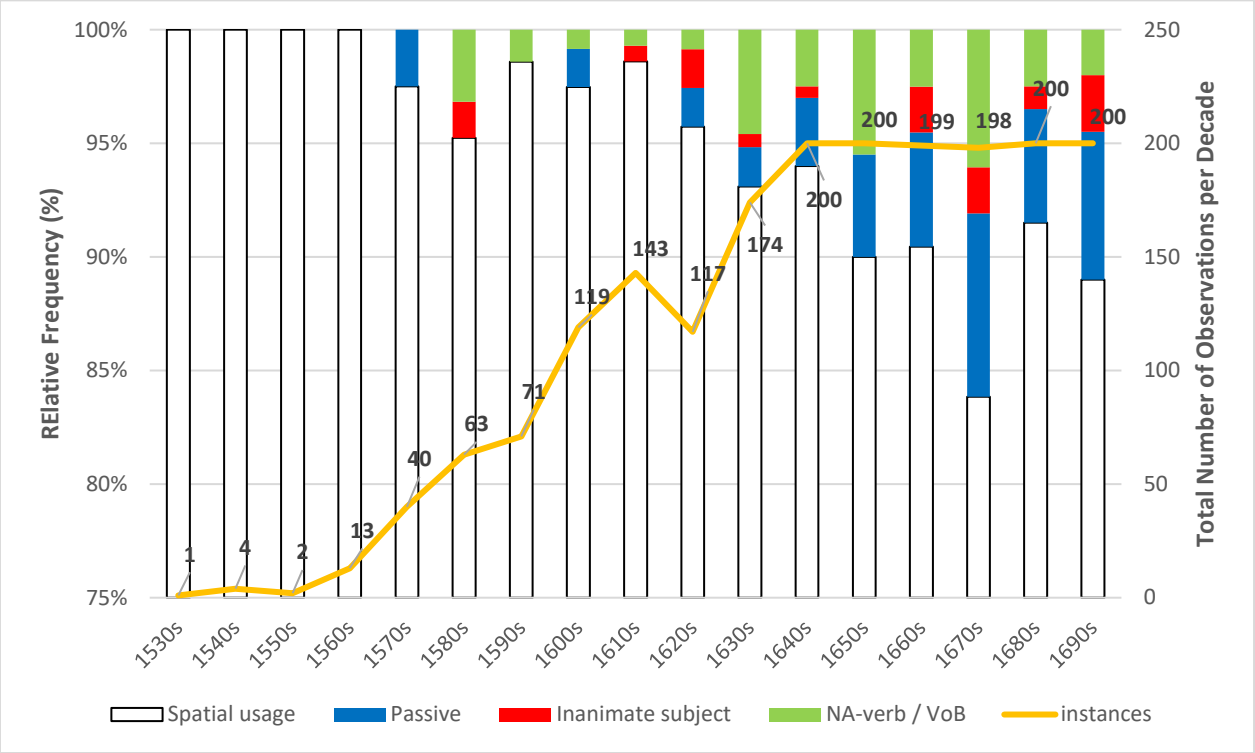

Figure 24. Relative frequency of 4th Criterion categories by decade.

It was tested if the raw frequencies of Group-3 verbs and the four categories of the 4th Criterion and the two categories of the 3rd Criterion (whether the sentence expresses an instruction/imperative or not) correlate. All Pearson correlation coefficients for the 4th Criterion proved to be positive, above 0.7 and highly statistically significant with p-values smaller than 0.001.

As most Group-3 verbs happen to be passives in English, the strong correlation between these two variables is not surprising. The same is valid for Group—3 verbs that also happen to be non-action verbs (i.e. *to die*), however that correlation slightly weaker, possibly due to some non-action verbs belong to Group-2 instead (i.e. *to receive*) (see below). A strong and significant correlation was found in each case (as summarized in Table 7 below).The only exception to this being Category 1 of the 3rd Criterion, i.e. instances where *be going to* is used in an instructive manner or in an imperative. As there are only 21 instances of this in the entire dataset, however, the positive correlation with Category 0 of Criterion 3. is not surprising, nor significant.

Table 7. Correlation coefficients with occurrences of Group-3 verbs.

	Corr. Coefficient	**p-value**
3rd Criterion – no match (*imperative / instruction*)	Pearson: 0.82, Spearman: 0.91	0.00013
4th Criterion – no match	Pearson: 0.78, Spearman: 0,86	0.000528
4th Criterion – *passive*	Pearson: 0.99	0.000…
4th Criterion – *inanimate subject* (*patient*)	Pearson: 0.76	0.000777
4th Criterion – *non-action verb / verb of becoming*	Pearson: 0.875	0.000…

A linear correlation was observed between Group-3 verbs and the value categories of Criterion 4 (see Figure 25 through 29 below). There is, however, a non-linear relationship between an example not being an instruction/imperative (i.e. not corresponding to the 3rd Criterion) and it not being a passive, not having an inanimate subject or not containing a non-action verb/verb of becoming (or to the 4th).

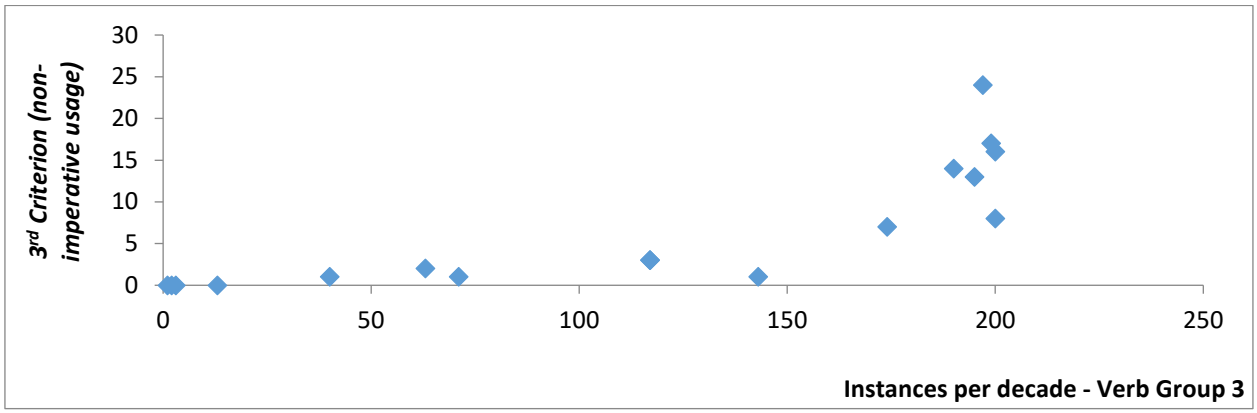

Figure 25. Scatterplot; Group-3 verbs vs. 3rd Criterion (non-imperative usage), raw freq.

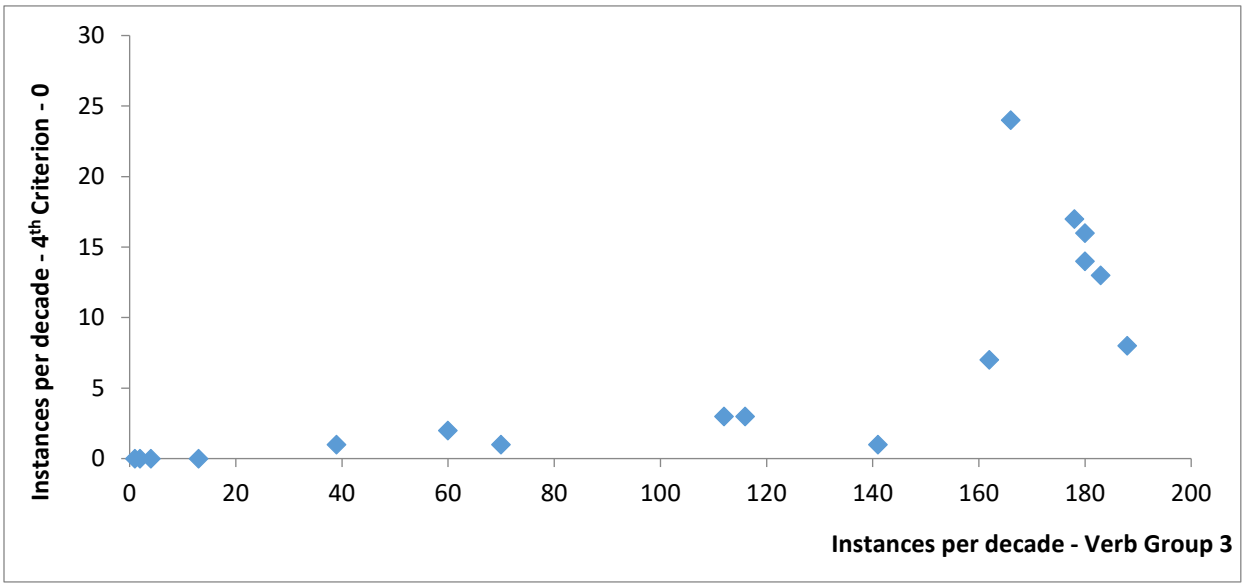

Figure 26. Scatterplot; Group-3 verbs vs. 4th Criterion - 0 (spatial usage/action verb), raw freq.

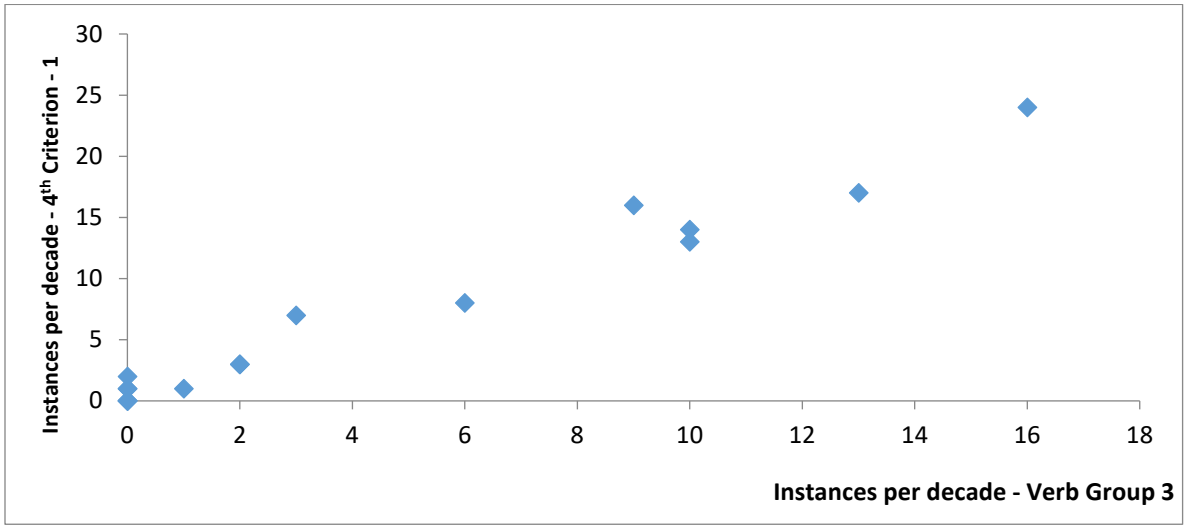

Figure 27. Scatterplot; Group-3 verbs vs. 4th Criterion - 1 (passive), raw freq.

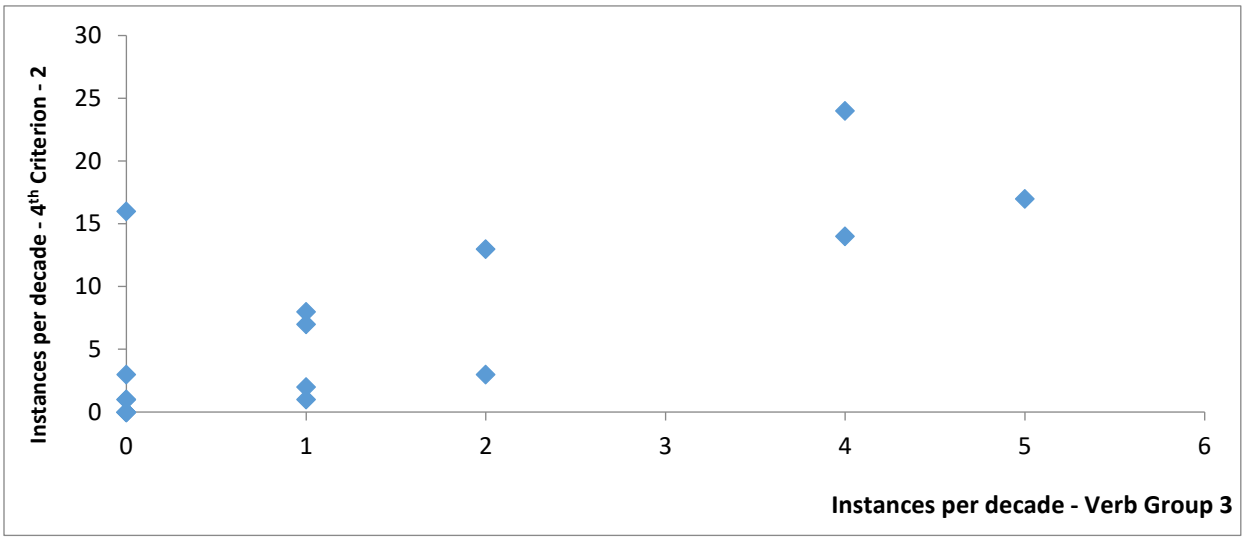

Figure 28. Scatterplot; Group-3 verbs vs. 4th Criterion - 2 (Inanimate Subject), raw freq.

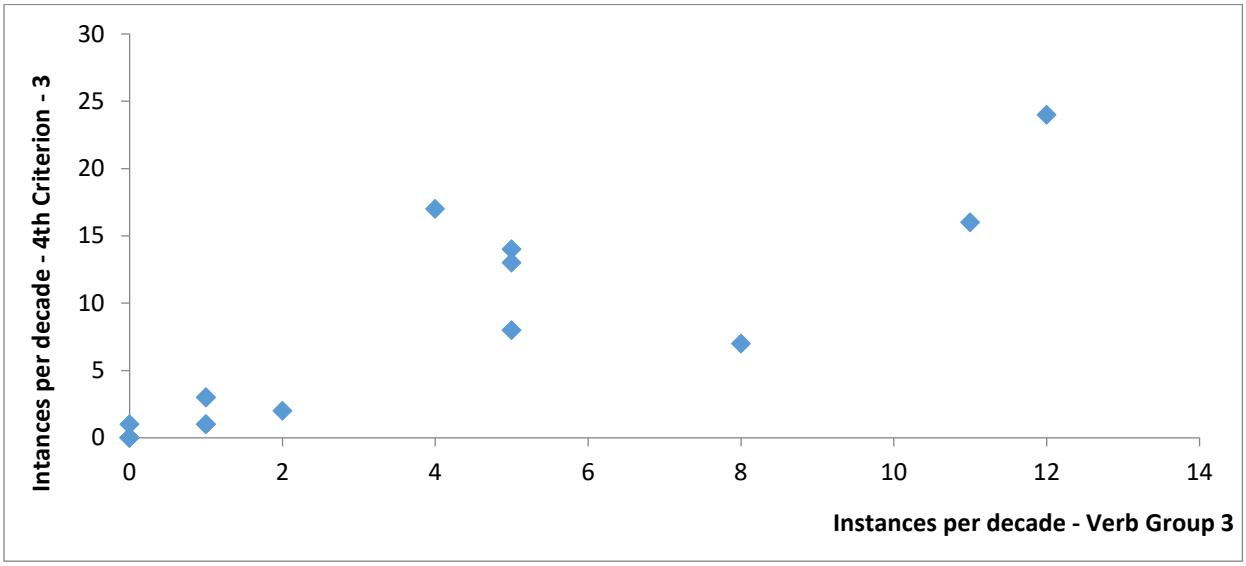

Figure 29. Scatterplot; Group-3 verbs vs. 4th Criterion - 3 (non-action verbs/ verbs of becoming)

As a next step, a linear regression was used to test which of the variables that were found to be correlated with Group-3 verbs, if any, can be used to explain the group's behaviour. The initial model contained all five[15] explanatory variables. It had an adjusted R^2 of 0.995, a highly

[15] *i.e.*

3rd Criterion – 0 (*be going to* + no imperative)

4th Criterion – 0 (*be going to* in spatial usage)

4th Criterion – 1 (passive)

significant F-statistic and a Durbin-Watson value of 1.640, indicating no concerns with autocorrelation. Two of the explanatory variables had a highly significant p-value: 4th Criterion – 1 and 4th Criterion – 3: 0.000 and 0.001, respectively, which was to be expected, as we discussed above. All other p-values were much higher than any standard significance level. Thus we can conclude that whether the subject is animate or not does not matter in relation to Group-3 verbs.

Then, all non-significant explanatory variables were removed. This resulted in a model with the same R^2, a Durbin-Watson statistic of 1.965, once again raising no concern with autocorrelation, a significant F-statistic and the coefficients of the two explanatory variables were highly significant (p-values = 0.000 in both cases).

It should be noted, however, that the Normality assumption of the residuals was violated, although there seem to be no issues with the other two assumptions underlying the model. Due to the small sample size it was expected for the Normality assumption to be violated anyway and the results were nevertheless interpreted.

From the above analysis, we can extrapolate the following equation:

*Number of Group-3 verbs per decade = 0.148 + 1.111 * (passives) + 0.491 * (non-action verbs/ verbs of becoming)*

The positive coefficients are consistent with the positive correlation coefficients observed in the previous step. In addition, it should be noted that the variable 4th Criterion – 1 (*passives*) has an effect on the number of Group-3 verbs per decade that is roughly twice as strong the one of 4th Criterion – 3 (*non-action verbs/ verbs of becoming*). This leads us to the following conclusion:

According to the theoretical assumptions we adopted, diminished agency of the subject would point towards *be going to* being used in its Stage III. sense. In Hopper and Traugott's model, however, prominence is given to non-action verbs as marking the transition between stage II. and stage III. However, these results tell us that the passivity is twice as prominent a feature connected with *be going to*'s grammaticalization towards being a tense marker than its

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4th Criterion – 2 (inanimate subject)

4th Criterion – 1 (non-action verb / verb of becoming)

use with non-action verbs or verbs of becoming and, from the data observed, we can also conclude that the grammaticalization process started earlier than would be assumed on the basis of the *be going to* construction's use with non-action verbs. The correlations discussed above are visualized in the graphs below (each dot represents a decade):

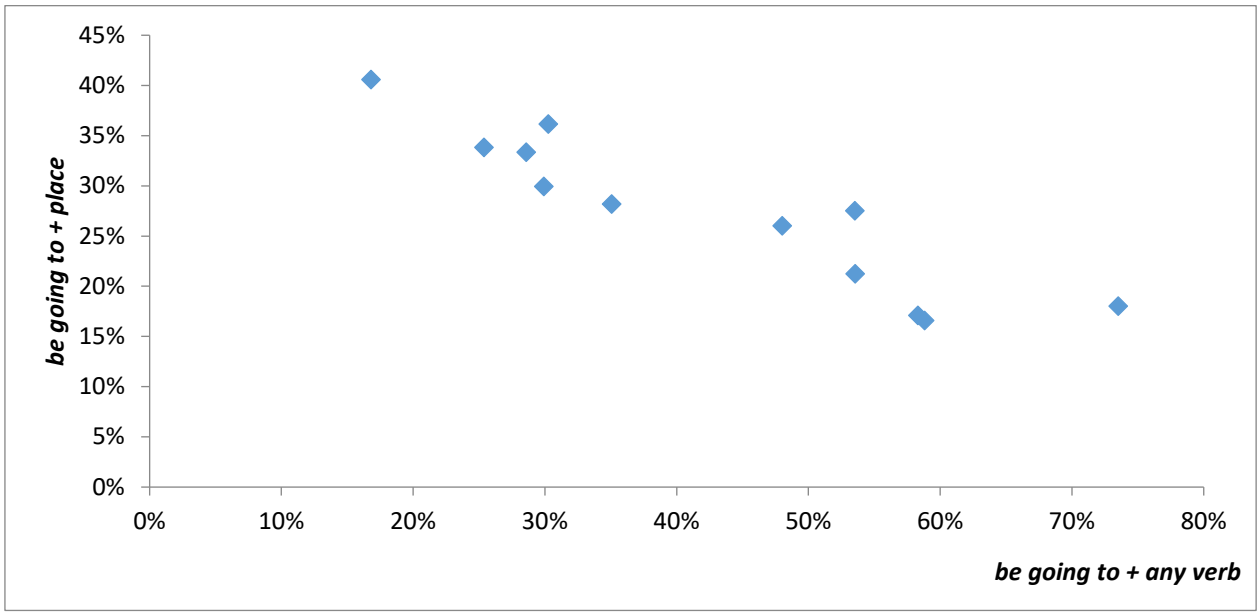

Figure 30. Scatterplot; *be going to + any verb* vs. *be going to + place*, (relative).

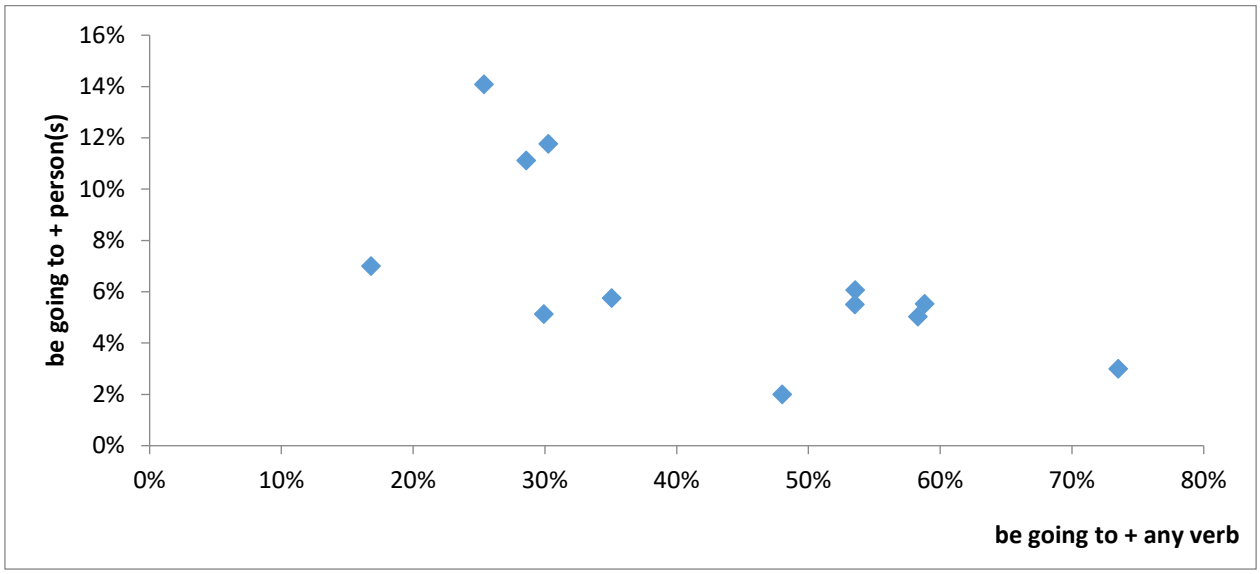

Figure 31. Scatterplot; *be going to + any verb* vs. *be going to + person(s)*, (relative).

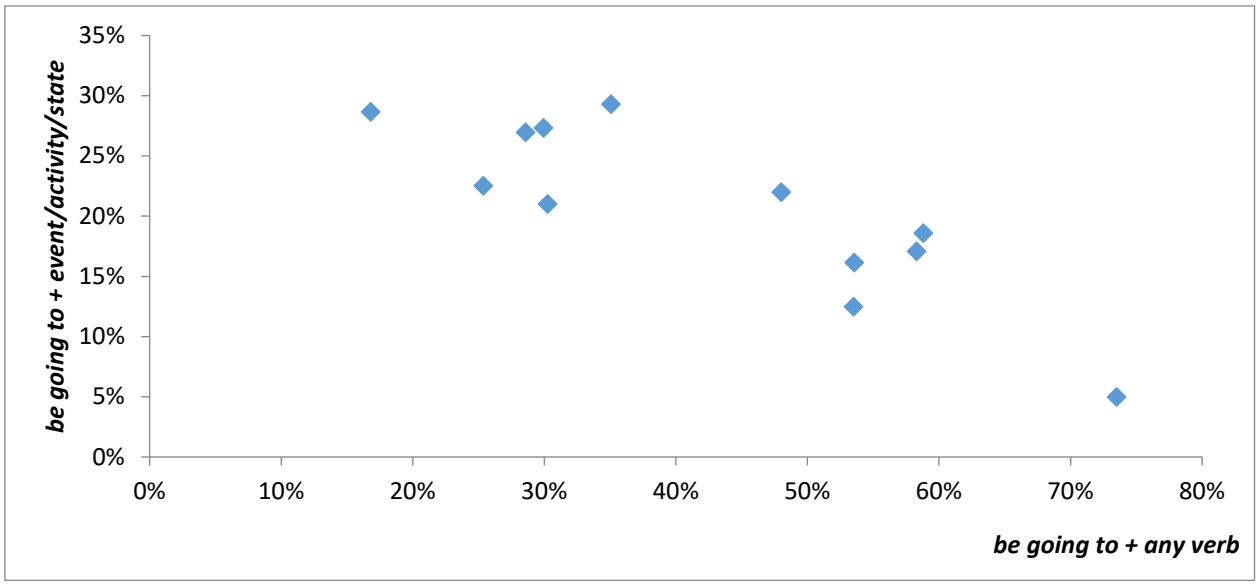

Figure 32. Scatterplot; *be going to + any verb* vs. *be going to + event/activity/state*, relative.

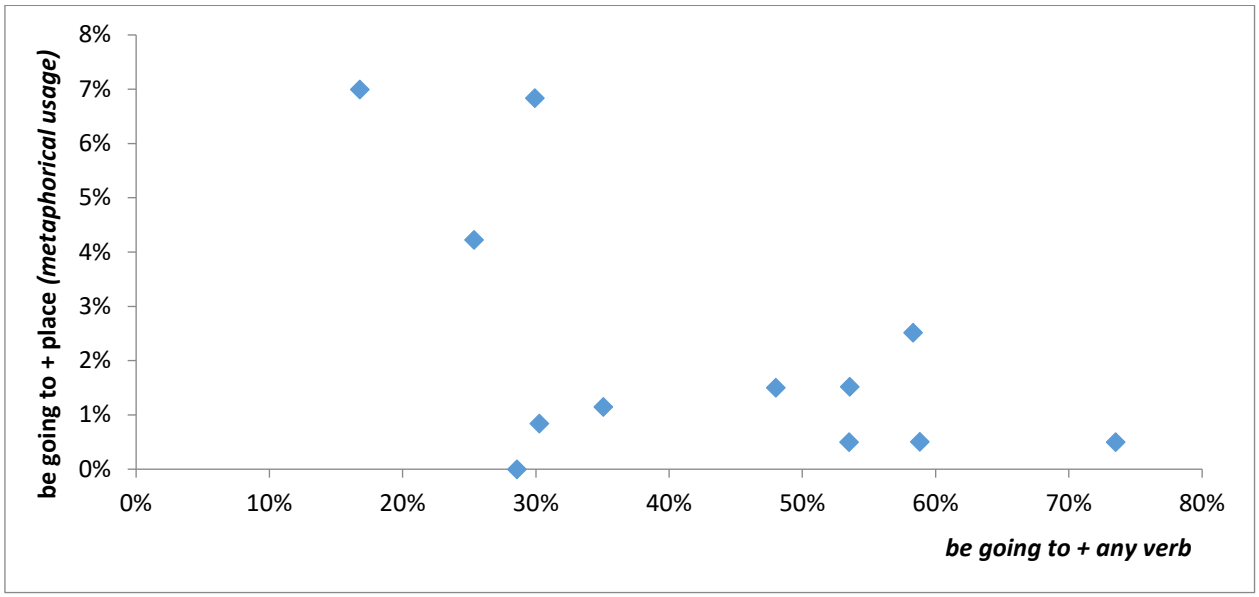

Figure 33. Scatterplot; *be going to + any verb* vs. *be going to + place* (metaphorical usage), relative.

8. Conclusion and final thoughts

Reality is narrated with the help of systems of meaning, informed by fundamental facts of human *being*, some of which are very ancient in both evolutionary and cultural terms. This process is iterated in every human activity, and that, naturally, includes language. So thought, composed of meaning of varying degrees of definition, is the hierarchical system resulting from the negotiation between the forces of chaos and order.

A body is necessary for the perception of the world. Direct perception would overload the perceptual system, which is why filters are necessary. A filter, in a very broad sense, would be a mechanism for the boiling down of the information about phenomena we encounter in the world and the placement of that information within a hierarchy of schematicity and meaning. This is one of the main reasons why so many metaphors deal with the body and its extensions, including, and very importantly so, motion of all kinds. This is also very evident in many mythological stories. Myths encode archetypes of human life, synthesized over extremely long periods of time by successive generations of individuals. Often, the universe is created from a primordial body. This is present, among others, in Hittite, Greek, Vedic, Egyptian and countless tribal myths. Lesser instances of such appropriation of perceptual frames and domains to deal with the world are also necessarily present in language. Embodied beings are fundamentally creatures of motion and motion is perceptually bound in space and time. It is unsurprising, therefore, that such structures get used for handling unfamiliar configurations and metaphorical use of language reflects that.

Narration in the broadest sense derives from observations over time within an environment that is both natural and social. It functions on the basis of the equation of epistemology with ontology: if it doesn't make sense - therefore it is not true and a necessity arises for it to be made to fit into the existing framework. Twentieth century reductionism and uniformitarianism function on a similar premise: if something is not observable – then it is not true (or in the extreme case – considered impossible) – a view adamantly opposed by philosophers like Ludwig Wittgenstein, who spoke of the so-called reductionist encroachment of the natural sciences on the humanities.

Narrated reality is usually complex, unbounded and of varying resolution – that is, the more abstract the notion – the less detail it contains. This, in turn, is boiled down further when it needs to be communicated. This requires operational efficiency in both the cognitive and externalization dimensions. Archetypal constructs of varying resolutions govern the processing of information on the different levels of abstraction.

In order to operationalize something new, as much as would be permissible by the diversity rules of the system is copied from existing conceptual structures. What determines how much copying is permissible is the entitification threshold for the system not to dissolve into chaos, i.e. too much and it would disturb the hierarchy of the system beyond its breaking point. Too similar, on the other hand, and the operationalization would be too indistinct to be useful. This is tested in real time by communicational efficiency: if the language phenomena are more useful for the purposes they fulfil, they will be more likely to take root in or to infect other users. Pronounced utility in some facet of the above-said makes language structures attractive.

There needs to be a balance between relatedness to the perceptual reality and the cloudy metaphorical notions those expressions attempt to describe. These would, very broadly speaking, be the two main levels of meaning: the direct, perceptual reality meaning that is there in phenomenological reality, which would be roughly equivalent to lexical meaning, and the metaphorical meaning in the broadest sense, which always entails the presupposition that it is not literally true, but it automatically encapsulates a more complex (and more abstract) form of meaning. It is activated by the knowledge that what is being said does not portray direct perceptual reality, but is just a stand-in for the expression of more subtle phenomena. Both are based on the fundamental human capacity for abstraction - a characteristic that permeates language as that tool for grasping reality (*apprehension* in CG), which tool is essentially of the same nature as its products – metaphorical.

We established that the progression of grammaticalization is essentially driven by meaning. Existing structures are used in novel ways to answer the demand of changing trends of communication. *Metaphor* and *metonymy* are the tools used to facilitate this process, by providing flexibility of expression without stretching the structure of the formal system to breaking point, but nonetheless still within the existing hierarchy of schematicity. What enables

metaphor and metonymy to do so are the principles of *iconicity* – the degree of resemblance and the symbolification of the systematic relationships between things.

The basis of any novelty is the striving to find a solution to the problem of communicating information – what is looked for is operationalizational utility. Metaphors and metonymies make this achievable by breaking the divisions between discrete concepts and allowing for abstract analogies and associations to take place (Heine, Claudi & Hühnemeyer 1991: 150-1), "based on […] experientially grounded conceptual archetype[s]" (Langacker 2009: 82), in order to "[lend] organization and coherence to our experience" (Kövecses 2007: 326).

Grammaticalization is fluid process – it very rarely can be said to have a clear beginning or a clear end - "synchronic syntax and morphology could be seen as the temporary - and not necessarily stable - reflexes of ongoing shifts" (H&T 2004: 29). There is no set direction for such transfers and they are not deterministic (Kövecses 2017: 326; 329-330). "Being abstracted from usage events (through the reinforcing of a recurrent commonality they manifest), a linguistic unit resides in a schematized pattern of action. It is therefore intrinsically dynamic" (Langacker 2009: 154). Just like the distinction between a bowl and a cup depends on many factors, some of which epi-linguistic, in the same way a construction or a word's level of schematicity is fluid. A grammaticalization process is most clearly observable when the linguistic tools that are being observed are being used in context. It is not a question of it being or not being grammaticalized.

Grammatialization spans both the formal and the semantic domains and is based in commonalities of the human cognitive make-up (Bybee, Perkins and Pagliuca 1994: 302). Just as Haiman (1994) suggests, we observe new action that becomes ritualized over time and then loses its novelty. This is very clearly observable in our diachronic survey of *be going to*.

The answer to our research question is that the original motion component of *be going to* has been preserved, but, by virtue of its motion up the schematicity hierarchy, has become so generalized, that, in some cases (namely those cases of expressing future tense where we can observe phonetic shortening), it is hardly recognizable at all. This provides a solution to the problem of a connection between two domains being used to explain metaphorical expressions. The argument is that the source domain contains much more conceptual information than would be necessary (Kövecses 2017: 326; 329-330). The motion of a frame up to domain level

takes care of that problem. In *be going to,* an effective process of apprehending reality is slowly transformed into an epistemic process.

The usage of a motion through space to express motion through time is a very common occurrence (Huumo 2017: 3). The model that was use in our research is based particularly on Langacker's idea of projected reality (1991: 278).The *be going to* is a Moving EGO type of metaphor of TIME as MOTION. "For *go* futures, […] instead of moving through space to initiate an infinitival process, the subject is re-conceptualized as moving through time" (Brisard 2001: 254). *Front* on the *metaphorical path* is conceptualized as future and *back* as past (Huumo 2017: 13). Some scholars (like Huumo 2017: 13) state that tense is not metaphorical and that it is separate from the metaphor of TIME as MOTION. Brisard argues that examining the epistemological meaning foundation of highly grammaticalized temporal phrases eliminates the need to explain by pragmatic means the wide variety of uses and adaptations they display (*ibid*. 2001: 252-3). That is however not helpful in the case of *be going to* as we discovered that the construction is very flexible in the degree of conditionality it expresses and that that degree is largely dependent on pragmatic factors.

In its spatial sense *be going to* does not have a projection of the action further on the metaphorical path corresponding to veridical time. Nor does it possess that trait when expression purpose, as that has very little to do with the occurrence of the purpose in question. When it expresses intended action –the action element moves along the metaphorical path, but it does not yet have a counterpart in veridical time – its occurrence is still a matter of deliberation or depends on external factors. In the future sense – the direction of attention is shifted away from the imperfective action grounded in the present toward some inevitable occurrence in the future. When the subject of the sentence is inanimate, the inevitability of the future event becomes even more explicit. Our empirical study of *be going to* in the EEBO corpus was conducted on the basis of the above-mentioned principles. From our experiment we can draw several conclusions.

There are two major periods in the grammaticalization of the construction, which differ in several characteristics. From the 1530s until the 1580s there is a very small increase in any use of *be going to*, be it spatial or otherwise. Between 1580 and the 1630s the amount of

instances doubles. Between the 1630s and the 1690s the amount of *be going to + verb* doubles again.

Until the 1630s we can observe a steady, relatively uniform rise of all usages of *be going to*, regardless of the level of grammaticalization. From the 1640s until the 1680s, however, we can observe a sharp change in behavior of the construction. Spatial usages and usages with a verb of action start to correlate negatively, with a tendency for the former to increase at the expense of the latter on average. In the 1690s we observe yet another change in the trend as the spatial usages plummet by about ¼ and the usages with action verbs increase by the same amount. On the basis of these observations we can conclude that it was in the 1640s that the usage of be going to + verb of action underwent a change which allowed it to be used even more widely. The second such turning point are the 1690s. However, we can identify examples of Stage III. grammaticalization of be going to as early as 1543. The logical conclusion of this would be that the purposive and the intentional non-action aspects of be going to were what rove the initial rise in its usage. This is corroborated by the fact that the increasing usage of *be going to + verb* correlates strongly with the abstract types of spatial usage, implying an activity, state or event. Not only that, but the more abstract the spatial usage – the stronger the correlation. Additionally, when the two later diverge, as we saw, the increase of one clearly occurs at the expense of the other. This is further supported by the fact that when the usage with action verbs starts to gradually increase in the 1640s, the usage with non-action verbs, which is supposed to use the most grammaticalized form of the construction decreases instead. Our analysis also showed that the construction tended to be used much more readily with passives than with non-action verbs, which comprise only a very small percentage of the total usage. In comparison, passives started to be used with *be going to* on average almost half a century earlier than non-action verbs (i.e. in the 1580s). Verbs of action and non-action verbs (including passives) maintained an average ratio of 4:1 per decade.

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Appendix A: German abstract

Diese Masterarbeit untersucht die Grammatikalisierung der *be going to*-Konstruktion im Englischen auf der Grundlage der Theorie der kognitiven Grammatik (Langacker 1987) anhand von Mustern aus den Early English Books Online-Korpus von historischem Englisch (Davies 2017). Es werden alles 1944 Einzelbeispiele anhand theoretischer Kriterien analysiert, die auf Grundlage der kognitiven Grammatiktheorie und des von Hopper und Traugott entwickelten Modells der Grammatikalisierung (*ibid*. 2003) entwickelt wurden. Anschließend wurden statistische Analysen durchgeführt, mit dem Ziel prominentere Veränderungsphasen der Konstruktion (aufzuweisen) bestätigen, sowie nach Mustern semantischer Änderung im Verlauf von 17 Jahrzehnten (von den 1530ern bis in die 1690er Jahre) zu suchen. Auf diese Weise wurden drei Perioden festgestellt: 1530-1580: als die Gesamtzahl des Konstruktionverbrauchs (allgemein) zunimmt; Dieser verdoppelt sich in den beiden Zeiträumen: 1580er-1630er sowie 1630er-1690er Jahren. Es wurde beobachtet, dass schon am Anfang des beobachteten Zeitraumes alle Verwendungstypen der Konstruktion häufiger werden. Zwischen den 1640er und den 1680er Jahren fing der metaphorisch lokativische Gebrauch von *be going to* mit dem Gebrauch der Handlubgs-Verben zu konkurrieren an, welcher ab den 1690er Jahren mit einer großen Marge vorherrschte. Darüber hinaus wurde festgestellt, dass der Gebrauch von *be going to* ein absichtliches nicht-Handeln anstatt Zukünftigkeit auszudrückt. Dieses könnte als ein prominenteres Element seiner Grammatikalisierung, als seine Verwendung als Zeitmarker betrachtet werden.

Appendix B: Tables

Verbal forms of *[be] going to* and their variants present in the EEBO corpus*:*

1	WAS GOING TO
2	WERE GOING TO
3	AM GOING TO
4	ARE GOING TO
5	IS GOING TO
6	'S GOING TO
7	BEEN GOING TO
8	BE GOING TO
9	'M GOING TO
10	BEENE GOING TO
11	VVAS GOING TO
12	MENS GOING TO
13	'RE GOING TO
14	BEING GOING TO
15	BIN GOING TO
16	I'ME GOING TO
17	WERT GOING TO
18	HEE'S GOING TO
19	EMPEROURS GOING TO
20	BENE GOING TO
21	MAJESTIE'S GOING TO
22	VVERE GOING TO
23	Y'ARE GOING TO
24	WER GOING TO
25	MAJESTYS GOING TO
26	VAS GOING TO
27	THEY'R GOING TO
28	THATS GOING TO
29	QUEENES GOING TO
30	IME GOING TO
31	IM GOING TO
32	BEE GOING TO

Example number calculation tables 1640 – 1690

1640s		%	No. /200	Examples:
270	107	39,63%	79,26	**79**
270	45	16,67%	33,33	**33**
270	33	12,22%	24,44	**24**
270	35	12,96%	25,93	**26**
270	34	12,59%	25,19	**25**
270	6	2,22%	4,44	**4**
270	4	1,48%	2,96	**3**
270	2	0,74%	1,48	**2**
270	2	0,74%	1,48	**2**
270	1	0,37%	0,74	**1**
270	1	0,37%	0,74	**1**
			Total:	**200**

1650s		%	No. /200	Examples:
691	295	42,69%	85,38	**85**
691	105	15,20%	30,39	**30**
691	98	14,18%	28,36	**28**
691	77	11,14%	22,29	**22**
691	87	12,59%	25,18	**25**
691	8	1,16%	2,32	**2**
691	5	0,72%	1,45	**1**
691	5	0,72%	1,45	**1**
691	4	0,58%	1,16	**1**
691	1	0,14%	0,29	**1**
691	1	0,14%	0,29	**1**
691	2	0,29%	0,58	**1**

691	2	0,29%	0,58	**1**
691	1	0,14%	0,29	**1**
			Total:	**200**

1670s		%	**No. /200**	**Examples:**
877	363	41,39%	82,78	**83**
877	130	14,82%	29,65	**30**
877	138	15,74%	31,47	**31**
877	99	11,29%	22,58	**23**
877	87	9,92%	19,84	**20**
877	27	3,08%	6,16	**6**
877	13	1,48%	2,96	**3**
877	6	0,68%	1,37	**1**
877	5	0,57%	1,14	**1**
877	2	0,23%	0,46	**1**
877	1	0,11%	0,23	**0**
877	2	0,23%	0,46	**1**
877	1	0,11%	0,23	**0**
877	1	0,11%	0,23	**0**
877	1	0,11%	0,23	**0**
877	1	0,11%	0,23	**0**
			Total:	**200**

1680s		%	**No. /200**	**Examples:**
1099	471	42,86%	85,71	**86**
1099	165	15,01%	30,03	**30**
1099	178	16,20%	32,39	**32**
1099	127	11,56%	23,11	**23**
1099	83	7,55%	15,10	**15**
1099	23	2,09%	4,19	**4**

1099	16	1,46%	2,91	**2**
1099	16	1,46%	2,91	**2**
1099	5	0,45%	0,91	**1**
1099	2	0,18%	0,36	**1**
1099	3	0,27%	0,55	**1**
1099	3	0,27%	0,55	**1**
1099	3	0,27%	0,55	**1**
1099	2	0,18%	0,36	**1**
1099	1	0,09%	0,18	**0**
1099	1	0,09%	0,18	**0**
			Total:	**200**

1690s		%	**No. /200**	**Examples:**
1234	493	39,95%	79,90	**80**
1234	205	16,61%	33,23	**33**
1234	167	13,53%	27,07	**27**
1234	162	13,13%	26,26	**26**
1234	97	7,86%	15,72	**16**
1234	54	4,38%	8,75	**9**
1234	18	1,46%	2,92	**3**
1234	6	0,49%	0,97	**1**
1234	20	1,62%	3,24	**3**
1234	1	0,08%	0,16	**0**
1234	5	0,41%	0,81	**1**
1234	2	0,16%	0,32	**1**
1234	2	0,16%	0,32	**0**
1234	1	0,08%	0,16	**0**
1234	1	0,08%	0,16	**0**
	-		**Total:**	**200**