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Variation & Universality of head/Kopf and heart/Herz  
Conceptualizations  
A Cross-linguistic Approach toward Conceptual Metaphors &  
Metonymies in English and German Corpora

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## Abstract

Figurative Sprache spielt eine zentrale Rolle im menschlichen Denken und Ausdruck und Körperteilbegriffe bieten ein fruchtbares Forschungsfeld, um das Zusammenspiel von universellem Embodiment und kultureller Variation zu untersuchen. Kopf und Herz werden schon lange mit grundlegenden Dichotomien wie Denken versus Fühlen oder Vernunft versus Gefühl assoziiert. Diese Masterarbeit basiert auf der konzeptuellen Metapherntheorie (Conceptual Metaphor Theory, Lakoff & Johnson 1980 und spätere Arbeiten), ergänzt durch einige Perspektiven auf Embodiment (Verkörperung), Metonymie und kulturelle Modelle. Diese Studie analysiert, wie die Begriffe *head/Kopf* und *heart/Herz* im englischen und im deutschen Datensatz in figurativen Ausdrücken konzeptualisiert werden. Der empirische Teil dieser Arbeit verfolgt einen korpusbasierten Ansatz und nutzt die Subkorpora des Genres „Blog“ des English Web Corpus 2021 sowie des German Web Corpus 2020 von *Sketch Engine*. 1074 figurative Ausdrücke mit den Lemmata *head/Kopf* und *heart/Herz* wurden identifiziert und induktiv anhand zugrunde liegender Metaphern und Metonymien codiert, die anschließend zu übergeordneten konzeptuellen Themen zusammengefasst wurden. Die Analyse untersucht Gemeinsamkeiten und Unterschiede zwischen dem englischen und dem deutschen Datensatz sowohl auf thematischer Ebene als auch in spezifischen metaphorischen und metonymischen Mustern. Sie zeigt, wie verkörperte Erfahrung mit sprachenabhängigen Ausdrucksformen und kulturellen Modellen zusammenwirkt.

Die Ergebnisse dieser Studie verdeutlichen einen Kontrast zwischen Kognition und Emotion bei der Konzeptualisierung von Kopf und Herz in beiden Sprachen und spiegeln zugleich erhebliche Überschneidungen wider. *Head* und *Kopf* werden primär mit dem Denken und mentalen Prozessen assoziiert, wobei unterschiedliche Aspekte kognitiver Aktivität hervorgehoben werden. Orientierungsbezogene (*head* als oberster Teil) und soziale Rollen *Zuordnungen* (mappings) (*head* als Führungsperson) treten im englischen Datensatz besonders häufig auf, während das Bild des Behälters (Container-Schema) für *Kopf* stärker präsent ist. *Heart* und *Herz* werden vorwiegend mit den Konzepten Emotion, (emotionales) Engagement und Authentizität verknüpft. Im deutschen Datensatz treten dabei mehr affektive Assoziationen hervor, während der englische Datensatz Metaphern der Zentralität und Essenz betont. Trotz dieser Unterschiede treten viele Metaphern und Metonymien in beiden Sprachen ähnlich häufig auf, was sowohl die verkörperte Basis als auch die enge kulturelle und sprachliche Beziehung widerspiegelt. Indem Embodiment als universelle Grundlage betont und zugleich kulturell-sprachliche Variation berücksichtigt wird, liefert diese Studie Einblicke darin, wie kulturell bevorzugte sprachliche Muster und kulturelle Modelle die figurative Konzeptualisierung von Kopf und Herz im alltäglichen (Internet-)Sprachgebrauch prägen können.

## Abstract

Figurative language is central to human thought and expression, and body-part terms provide a particularly rich field for examining the interplay of universal embodiment and cultural variation. Within this field, the head and the heart have long been associated with fundamental dichotomies, such as thought versus emotion or reason versus feeling. This thesis is theoretically grounded in Conceptual Metaphor Theory (Lakoff & Johnson 1980 and subsequent work), complemented by several perspectives on embodiment, metonymy, and cultural models. It examines how the body-part terms *head/Kopf* and *heart/Herz* are figuratively conceptualized in English and German. The empirical study employs a corpus-based approach, drawing on subcorpora with the genre *Blog* of the English Web Corpus 2021 and the German Web Corpus 2020 in Sketch Engine. 1074 figurative sentences with the lemmas *head/Kopf* and *heart/Herz* were identified and inductively coded for underlying conceptual metaphors and metonymies, which were grouped into broader thematic groups. The analysis examines similarities and differences in the English and German datasets at both the thematic-group level and in specific metaphorical and metonymic patterns. It focuses on how embodied experience intersects with language-specific expressions and culturally shared models of conceptualizing these body-part terms.

The findings of this small-scale study reveal a contrast between cognition and emotion across the head and the heart in the two languages, while also reflecting substantial overlaps. *Head* and *Kopf* are primarily associated with thought and mental processes, though they emphasize different aspects of cognition. Additionally, orientational mappings (*head* as the top part) and social-role mappings (*head* as leader) occur frequently in English, whereas the container schema is more prominent in German, specifically with the term *Kopf*. *Heart* and *Herz* are consistently related to emotion, engagement, and authenticity, with German showing stronger affective associations, while English more often features mappings to centrality and essence. Despite these differences, numerous metaphors and metonymies occur at similar frequencies in both languages, reflecting shared embodied grounding as well as the languages' close cultural-linguistic relationship. By foregrounding both embodiment (as a universal foundation) and cultural-linguistic variation, these results offer insights into how culturally favored linguistic patterns and cultural models can shape the figurative conceptualization and expression of the head and the heart in everyday (internet) language.

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# 1. Introduction

Figurative language is a pervasive feature of everyday communication, shaping not only how people express themselves but also how they conceptualize their lived experience. Among the most productive sources of figurative meaning are terms for body parts, which offer a direct link between embodied experience and abstract domains of thought and emotion. Within this semantic area, the head and the heart occupy a particularly prominent position. Their use in metaphors is virtually universal across languages, yet they exhibit subtle, culturally specific patterns of use. For instance, their pairing can reflect fundamental dichotomies such as reason (head) versus emotion (heart) and mind (head) versus body (heart). Moreover, such metaphors are deeply embedded in broader traditions of cultural knowledge, folk symbolism, or outdated but culturally still relevant medical theories, as reflected in various cultural models (see Chapter 4 on the notion of cultural model). The head and the heart, as figurative and culturally meaningful embodied concepts, offer an especially revealing site for investigating the interplay between universal cognitive mechanisms and culture-specific patterns of metaphorical conceptualization.

This study is grounded in the framework of Conceptual Metaphor Theory (Lakoff & Johnson (2003 [1980], 1999), which considers metaphor and metonymy as fundamental cognitive processes rather than particularly poetic features of language. While metaphors structure abstract domains in terms of more concrete ones, metonymies (Barcelona 2003) often provide the conceptual groundwork for such metaphorical extensions. Such cognitive processes can be analyzed within the broader theory of embodied cognition (Johnson 1987, Barsalou 2008, Shapiro 2019), which emphasizes the bodily basis of conceptualization. Complementarily, cultural models (Quinn & Holland 1987, Quinn 1991, Kövecses 2005, Mischler 2013) demonstrate how shared understandings and collective experiences shape patterns of figurative thinking. Recent cross-linguistic research on body-part metaphors (Kraska-Szlenk 2019; Kraska-Szlenk 2020; Kóczy & Sipőcz 2023) has shown that the head and the heart function as productive source domains across languages, and also that their figurative meanings are sensitive to cultural context.

In this thesis, I focus solely on two body-part terms (head/Kopf and heart/Herz) in both English and German. By analyzing their figurative usage, I aim to identify the conceptual metaphors and metonymies that structure their meanings and to determine how far these conceptualizations overlap between the two languages. My interest stems from the fact that body-part metaphors are a particularly fruitful area of study: they belong to the most basic layer

of the lexicon, are deeply grounded in embodied experience, and yet exhibit remarkable cultural variability.

The main research questions can be formulated as follows:

1. How are the concepts of *head* and *heart* figuratively used in English and German?
2. What are the underlying conceptual metaphors and metonymies?
3. To what extent do these conceptualizations align across the two languages, and where do they diverge?
4. How can similarities and differences be accounted for in light of embodiment and cultural models?

Accordingly, this study aims to provide a systematic cross-linguistic analysis of figurative expressions involving the head and the heart. The objectives are to compile and categorize metaphors and metonymies in English and German corpora to uncover cross-linguistic similarities and differences. A final aim is to offer some informed speculations about the extent to which embodiment and cultural models might account for these patterns. To achieve these aims, I adopt a corpus-based, cross-linguistic approach. The data are retrieved from the English Web Corpus 2021 and the German Web Corpus 2020 in Sketch Engine, with a focus on the built-in sub-corpus with the Genre *Blog*, to capture informal and everyday written language use. Figurative expressions containing the lemmas *head/Kopf* and *heart/Herz* are extracted by employing concordance queries. The analysis proceeds inductively: all figurative expressions are coded for specific underlying conceptual metaphors and metonymies, which are then grouped into broader conceptual themes. This approach enables the systematic identification of both universal tendencies and language-specific patterns, and I would argue that it is well-suited to examine the interplay between embodiment and cultural models. I hypothesize that the conceptualizations of *head/Kopf* and *heart/Herz* will show strong universal tendencies, given the shared embodiment and cultural-linguistic proximity of English and German. However, I expect subtle differences in the areas of more complex metaphorical mappings and culturally embedded models, as reflected in metaphorical and idiomatic expressions.

The thesis is organized as follows: Chapter 2 covers the theoretical background of metaphor, metonymy, and Conceptual Metaphor Theory. Chapter 3 deals with the theory of embodiment and how metaphor is grounded. Chapter 4 looks at cultural models and the debate between universality and variation. Chapter 5 introduces body-part metaphors, focusing on the

head and the heart, and connects them to cultural models in cross-linguistic studies, concluding the theoretical part of the thesis. Chapter 6 describes the methodology, followed by empirical results in Chapter 7. Chapter 8 discusses the findings in relation to embodiment and cultural models, and Chapter 9 concludes the study. The complete bibliography is included in Chapter 10.

## Part 1: Theory

### 2. Metaphor and Metonymy

#### 2.1 Traditional Approaches & Definitions of Metaphor

The concept of metaphor has a long, rich history that stretches back centuries to ancient rhetoric. Aristotle viewed metaphor as a kind of comparison, in which meaning is transferred from one unit to another based on analogical principles (Levin [1977] 2019: 85, Ritchie 2013: 4). Metaphor has also been described as substituting one word for another with a seemingly divergent meaning or as the implicit comparison of two ideas, similar to analogy or simile but without explicitly saying, “this is like that.” Until the late 20th century (and sometimes beyond), metaphor was predominantly considered a type of figurative language intended for literary embellishment. The prevailing assumption was that metaphor is primarily employed for aesthetic and rhetorical purposes, relying on the perceived shared characteristics of the two ideas (Ritchie 2013: 5).

In traditional accounts, the concept conveyed by a metaphorical expression is often referred to as the *topic*, whereas the words or phrases expressing that topic are called the *vehicle*. The term vehicle itself is metaphorical, highlighting that the meaning of the expression is transferred or carried over from one domain to another. Occasionally, the *topic* is referred to as the *target*, while the *vehicle* can also be described as the *basis*. This terminology emphasizes that the relationship between the two typically involves moving from a more concrete, basic meaning to a more abstract one (Ritchie 2013: 10-11).

Modern dictionary definitions largely align with this traditional view. For instance, Merriam-Webster (2024, online) offers the following definition for metaphor: “a figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them”. Similarly, Kövecses (2010: ix)



offers a contemporary but non-cognitive popular view of metaphor as “a figure of speech in which one thing is compared with another by saying that one is the other”. This definition emphasizes metaphor as a figurative device that a speaker or writer employs for a specific communicative purpose, thereby highlighting its role in the production and sharing of meaning.

A more cognitive understanding of metaphor was developed in Burke’s early work (1945, quoted in Ritchie 2013: 6), which describes metaphor as “a device for seeing something in terms of something else”. Burke’s view places more emphasis on the user of the device but it also subtly implies that metaphor is a conceptual phenomenon. Although not as explicit as later cognitive approaches, Burke’s definition thus already hints at the conceptual basis for metaphor. Yet, the transition from *seeing* to *understanding* one concept in terms of another is conceptually a small but critical step, which will be elaborated in the following subsection.

The diversity of perspectives on metaphor across linguistic fields illustrates well the complexity of this phenomenon. Levin (2019[1977]: 13), for instance, frames metaphor as a form of pragmatic deviance, the flouting of Grice’s maxim of quality. Yet, his theory of metaphor is semantic, meaning that the elements that constitute a metaphor are of semantic nature (Levin 2019[1977]: 92). He recognizes, however, that the realization of metaphor requires more than a lexical item’s semantic information. Nonetheless, the necessity of encyclopedic knowledge does not invalidate a semantic theory; rather, it demonstrates that metaphor cannot be fully explained by semantic processes alone (Levin 2019[1977]: 94-95). Levinson (1983: 156), on the other hand, adopts a pragmatic theory of metaphor (as a form of generalized conversational implicature), arguing that “the semantics will just provide a characterization of the literal meaning or conventional content of the expressions involved, and from this, together with the details of the context, the pragmatics will have to provide the metaphorical interpretation”. Levinson observes that in many cases, there is too little apparent relation between the two concepts to assume a simple simile or comparison. He concedes that it may be “too much to ask of a pragmatic theory that it should actually give us an account of what is clearly a perfectly general and crucial psychological capacity that operates in many domains in human life, namely the ability to think *analogically*” (Levinson 1983: 159, italics in original). Notably, Levinson (1983: 159) references Lakoff and Johnson’s *Metaphors We Live by* (2003 [1980]), suggesting that a cognitive perspective may offer a more satisfactory account of metaphorical relations in terms of conceptual domain mappings.

## 2.2 The Cognitive Approach & Conceptual Metaphor Theory

As described above, metaphor was for many decades predominantly seen as figurative, even poetic language, rather than a central feature of everyday language. Moreover, linguists of the 20<sup>th</sup> century sought to explain metaphor in terms of linguistic deviance, semantics, and pragmatics mostly without examining the cognitive foundations of metaphorical thinking. In contrast, Lakoff & Johnson's *Metaphors We Live by* (2003[1980]: 3) famously argues that "metaphor is pervasive in everyday life, not just in language but in thought and action". Their work, along with later contributions by themselves and others (Lakoff 1987, Lakoff & Turner 1992, Lakoff & Johnson 1999, Kövecses 2000, 2010) served as a catalyst for a vast amount of research on conceptual metaphors and is often framed as a paradigm shift in the study of language and thought. This approach aligned well with the emerging field of cognitive linguistics, which was still developing at the time as part of a larger effort to provide a more comprehensive understanding of human cognition, with a particular focus on linguistic meaning (Barcelona 2003: 2).

Although the idea that metaphorical thought structures conceptualization and, by extension, our experience with reality may seem revolutionary, it has roots in philosophy as well (Kövecses 2016: 13). Since the 1980s, Lakoff & Johnson's ideas have been widely taken up, criticized, and elaborated on, including by the authors themselves. Yet, their work remains foundational for the cognitive approach toward metaphor and Conceptual Metaphor Theory (CMT), which forms the theoretical basis for this thesis. At the core, Lakoff & Johnson (2003: 4) claim that the conceptual system of the mind is metaphorically structured. In other words, metaphor is part of ordinary experience, interaction with the world, action, and thought processes. While the structure and processes of the conceptual system are generally not consciously accessible, insight can be gained through the analysis of metaphorical expressions in language, even when they are not deliberately employed as metaphors (Lakoff & Johnson 2003: 3).

Language offers a peek into human thought processes, reflecting how we organize, understand, recall, connect, and compare concepts in the mind. The ubiquitous nature of metaphor quickly became evident to early cognitive linguists as they uncovered an abundance of metaphors in everyday language. They explained this pervasiveness in terms of the "high degree of polysemy and idiomaticity in the structure of the mental lexicon" (Kövecses 2016: 14). Indeed, many metaphorical expressions are highly lexicalized, often appearing idiomatic or literal, even when they originate from metaphorical thought. Barcelona (2003: 5) clarifies

this by explaining: “A linguistic expression may eventually cease to be used metaphorically or metonymically but the corresponding conceptual projection may still be alive and be reflected in other linguistic expressions”. Consequently, a close analysis reveals that the underlying concept can be recognized as derived from metaphorical reasoning even when the expression seems non-metaphorical. This often occurs due to lexicalization or because the relation between the two concepts appears too far-fetched at first. Traditional approaches to metaphor frequently struggle to account for these cases, whereas a cognitive perspective may offer a plausible solution to this problem by understanding metaphorical expressions as reflections of the broader conceptual system and its domains. This issue becomes clearer with a concrete example: Consider the expression *the head of the department*. Traditional accounts might face difficulties explaining such expressions because, arguably, they involve no semantic anomaly or pragmatic inference as they are highly conventional and productive in everyday language. A cognitive approach treats these expressions as surface realizations of underlying conceptual mappings, such as ORGANIZATIONS ARE BODIES in my example. The head maps onto the leader or person in control, reflecting an embodied conceptual grounding.

It is important to clarify here that metaphorical expressions and conceptual metaphors are not the same. Metaphorical expressions are words and phrases that speakers and writers recognize as conventional metaphors in language. CMT refers to them as linguistic metaphors, the lexical realization of a conceptual metaphor. A widely accepted and contemporary definition of conceptual metaphor is offered by Kövecses (2016: 13, italics omitted): “A conceptual metaphor is understanding one domain of experience (that is typically abstract) in terms of another (that is typically concrete)”. In what follows, I will explain the components that constitute this definition.

A conceptual *domain* can be described as “any coherent organization of experience” (Kövecses 2010: 4). Conceptual domains structure sets of concepts and organize knowledge about them. They guide the interpretation of the experiences we have with the world. Within Conceptual Metaphor Theory, a conceptual metaphor is constituted by two domains and their relation. This systematic relationship between them is what Kövecses refers to as *understanding in terms of* and Lakoff & Johnson (2003: 10) describe as *comprehending in terms of*. “A conceptual metaphor is a systematic set of correspondences between two domains of experience” (Kövecses 2016: 14, italics omitted). These correspondences, or *mappings*, involve transferring information from one domain, the source domain, to another one, the target domain. The order typically goes from the more concrete source domain to the more abstract target domain or from the physical to the non-physical. As Lakoff and Johnson (2003: 59) put it, “we

conceptualize the less clearly delineated in terms of the more clearly delineated”. This ordering is usually, but not always, guided by the *principle of unidirectionality* (Kövecses 2010: 7).<sup>1</sup>

Continuing with the elements of Kövecses' definition, the term *understanding* is complex and multifaceted, and arguably not beyond dispute. The question here is what one means precisely by *understanding a metaphor*. One possibility is online understanding: a simultaneous activation of both domains in the mind. Thus, *online* processing refers to the real-time comprehension or interpretation in contrast to *offline* metaphorical processing, based on reasoning and long(er)-term memory. Accordingly, offline understanding can “be based on long-term memory or as a result of a long-term historical-cultural process” (Kövecses 2010: 41). Online processing may be assumed to be more automatic, while offline understanding would be more amenable to conscious control. Though some researchers contest that metaphorical processing involves simultaneous activation of the source domain, growing evidence indicates that understanding of metaphorical meaning depends on conceptual source domains and involves both online and offline processes (Kövecses 2010: 42). The grounding of metaphorical meaning and cognitive processes more generally will be discussed in the chapter on embodied cognition.

Because source domains typically encompass vast amounts of information, conceptual metaphors transfer only certain aspects that are relevant and consistent with the target domain in a process called *highlighting and hiding* (Lakoff & Johnson 2003: 10-12). Furthermore, additional information can be inferred or extended from the source domain, resulting in more original and innovative conceptual features (Lakoff & Johnson 2003: 13). This process is often called *metaphorical entailment* or *inference* (Kövecses 2016: 15). Lakoff's (1990) *invariance hypothesis* states that not all features from the source can be mapped or projected onto the target – only those aspects compatible with the target domain's image-schematic structure.

To illustrate the functioning of conceptual metaphors, consider the following example from my data:

*I have steeled my heart, and I do not shed tears easily; but these words could not but move me.*

Source: project no. 120, [gandhiashramsevagram.org](http://gandhiashramsevagram.org), #60138586720<sup>2</sup>

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<sup>1</sup> There are cases, however, particularly with embodied metaphors, where it might not be entirely clear which domain is more concrete or tangible. This topic will be revisited in subsequent chapters.

<sup>2</sup> An explanation of each example's source can be found in the methodology section on page 30.

The relevant lexical units in this example are *steeling* and *heart*. The source domain, which is the more concrete one, involves the act of *steeling*, which makes an object hard and tough like steel. This conceptual domain encompasses aspects of the physical material, characterized by its rigidity and strength. The target domain is more abstract, representing the person's emotional state. In this case, it implies that the individual is no longer easily affected by emotional experiences, due to protective actions against vulnerability and emotionality. The *heart* adds another layer of meaning to the metaphor. It functions metonymically, standing in for a person's emotional condition. Thus, the hard, rigid, and cold qualities of steel are mapped onto human emotions: a steeled heart conveys emotional toughness and suggests that a person no longer displays much emotional reaction to external circumstances. Highlighted in this metaphor are primarily the characteristics that depict steeling as the act of making something hard like steel. Other features of steel, such as durability or susceptibility to rust, are not relevant and thus remain hidden. On a sidenote, conceptual metaphors are conventionally represented in a concise manner in boldface: CONCEPTUAL DOMAIN A IS CONCEPTUAL DOMAIN B (Kövecses 2010: 4). In this example, the conceptual metaphor can be expressed as EMOTIONAL TOUGHNESS IS A HARD HEART or EMOTIONAL COLDNESS IS STEEL, which themselves may be grounded in other, more fundamental metaphors. The structure of these metaphor relations and the potential metonymic roots involved will be the focus of the following section.

## 2.3 Metaphor and Metonymy

Metonymy is traditionally defined as “a figure of speech consisting of the use of the name of one thing for that of another of which it is an attribute or with which it is associated”, as the online dictionary Merriam-Webster (2024, online) states. In *Metaphors We Live by*, Lakoff & Johnson (2003) dedicate one chapter to the cognitive understanding of metonymy, treating it as another form of process of thought and not a stylistic choice. They explain that metonymy works by “using one entity to refer to another that is related to it” (Lakoff & Johnson 2003: 35). Its primary function is therefore referential: it “allows us to use one entity to *stand for* another” (Lakoff & Johnson 2003: 36, *italics in original*). More broadly, “metonymic concepts allow us to conceptualize one thing by means of its relation to something else” (Lakoff & Johnson 2003: 39).

Yet, metonymy is not limited to reference alone – it is not just a device for referring to associated concepts. It shapes understanding in a way similar to metaphor, highlighting and foregrounding certain aspects of experience. In a PART-FOR-WHOLE metonymy, for instance,

selected aspects of the whole become especially prominent. The chosen aspect highlights and emphasizes that specific part of the whole through the metonymic expression (Lakoff & Johnson 2003: 36). The target concept is accessed and understood through reference to related aspects or concepts. Metonymy, in this sense, “allows us to focus more specifically on certain aspects of what is being referred to” (Lakoff & Johnson 2003: 37). Like metaphor, metonymy is deeply integrated into the conceptual system and thus everyday cognitive processes and language. Moreover, it helps organize experiences and knowledge about the world. Metonymies are pervasive and systematic – meaning their occurrence is not arbitrary. They are also culturally embedded and frequently tied to cultural and religious concepts and symbols (Lakoff & Johnson 2003: 37-40).

Building on Lakoff and Johnson’s insight, cognitive linguists have investigated the complex relations between metaphor and metonymy, gathering evidence for a strong interrelation between them. This area within cognitive linguistics is known as the Cognitive Theory of Metaphor and Metonymy (CTMM). Scholars working within this framework have suggested that metaphor and metonymy interact with each other, form a continuum or that metaphor is often motivated by underlying foundational metonymic relations. These discussions and theoretical lines (sometimes converging and other times diverging) are well represented in Antonio Barcelona’s edited volume *Metaphor and Metonymy at the Crossroads* (2003). In the following section, I will outline key tenets briefly before situating my own approach.

Although metaphor has garnered far more attention from linguists, some argue that metonymy might be even more fundamental to language and cognition (Barcelona 2003: 4). Metonymy is at least as pervasive in everyday thinking and communication as metaphor even though it might be less easily identified as figurative. Unlike metaphors, which often map between seemingly distant domains, metonymies operate within experientially related domains, making them appear more ordinary and less poetic. This may explain why metonymies are less easily recognized as such. Barcelona (2003: 4, italics omitted) offers the following definition of metonymy: “Metonymy is a conceptual projection whereby one experiential domain (the target) is partially understood in terms of another experiential domain (the source) included in the same common experiential domain”. The notion *understand* in this definition can be explained in a different wording as offering “mental access” as in Kövecses & Radden’s earlier (1998: 39) definition: “the vehicle, provides mental access to another conceptual entity, the target, within the same domain, or ICM”.

The concept of ICM (idealized cognitive model) is crucial here, as it refers to the organized systems of knowledge in which concepts are contiguously related. Both definitions stress that metonymic mappings occur within the same superordinate domain, in contrast to metaphoric mappings, which connect two separate domains. This distinction implies that with metonymy, source and target domain are related to each other closely or experientially contiguously, often in a PART-FOR-WHOLE or WHOLE-FOR-PART relation or other form of contiguity. Yet, many metonymic relations are highly complex and reducing them to a formulation such as *x stands for y* risks oversimplification. It is more accurate to understand them as flexible networks of related meanings, rather than as simple one-to-one replacements. Taking up my previous example, in *the head of the department*, the head does not simply substitute a leader; instead, it evokes a network of meanings associated with control, power, and hierarchy.

Moreover, distinguishing between metonymic and metaphorical mappings in practice can be even more challenging, as it is particularly difficult to determine whether two conceptual domains are distinct in the sense that they do not belong under the same superordinate domain. Barcelona (2003: 9) explains that two domains must be “conventionally and consciously classified as separate domains” to consider an expression as metaphorical. Yet, this is a consideration that only those looking to identify metaphors and metonymies do consciously. For speakers, this classification is rarely explicit as metonymy and metaphor are (mostly) unconscious and automatic cognitive processes. Thus, what counts as *separate* is not always clear. Even when considering a classic example for metonymy (CROWN FOR MONARCH), the interpretation still depends on whether *crown* is viewed as contiguous with the institution (the monarchy) or as figuratively standing for authority in a more abstract sense, implying a metaphorical meaning.

Given these challenges, some scholars prefer positioning metaphor and metonymy on a continuum. Radden (2000: 93), for instance, proposes a “metonymy-metaphor continuum with unclear or fuzzy cases in between”, and metaphor and metonymy as prototypical extremes at each end. Goossens (1990: 336) coined the term *metaphonymy* to refer to the relationships between metaphor and metonymy. He identifies two major types: metaphor derived from metonymy and metonymy embedded within metaphor. Barcelona (2003: 31) also sees the relationship between metaphor and metonymy as one in which metonymies act as prerequisites, assuming that “metaphorical mapping presupposes a conceptually prior metonymic mapping”. After testing this claim on a wide range of examples, Barcelona (2003: 51, italics omitted) states that “at least typically, metaphor is based on one or more metonymic mappings”.

For the purposes of this thesis, I will adopt such a continuum-based view of metaphor and metonymy. My aim is not to make categorical judgments with 100% accuracy whether an expression is metaphorical or metonymic. Rather, I seek to describe how the head and the heart are conceptualized across English and German through figurative language, mostly independent of whether the expressions in my data are understood and expressed as metaphors and metonymies or somewhere in-between on the *metaphonymic* continuum.

To illustrate this layered interaction between metaphor and metonymy, I will refer to the same example as previously:

*I have steeled my heart, and I do not shed tears easily; but these words could not but move me.*

Source: project no. 120, [gandhiashramsevagram.org](http://gandhiashramsevagram.org), #60138586720

In this example, the metaphor conceptualizes a steeled heart as not being very emotional or easily moved. It imports the concept of steel and selected aspects (strength, resistance) from a material domain to the emotional domain of *heart*. This implies a more foundational conceptualization of *heart* before a more complex metaphor can be established. This conceptualization is captured in the metonymy PROPERTY OF THE HEART FOR THE PROPERTY OF THE PERSON or even more basic as HEART FOR PERSON, which can be considered as a PART FOR WHOLE metonymy. The heart (as the central organ) is part of the body, and one can experience the involvement of the heart by its reaction to highly emotional states (the heart rate, for example). A common cultural model of the heart conceptualizes it as the part of the body that stands for the emotional state of the whole person (Niemeier 2008). Thus, this metonymy foregrounds the aspect of emotion of the human psyche and maps it onto an experientially and culturally related domain, that of the heart. Consequently, a metaphor that takes the concept of steel is then able to map it onto the domain of the body, specifically the heart. Yet, this process can only function when one is familiar with the metonymic groundwork, i.e. the cultural model of the heart. This illustrates how metaphor and metonymy are not only interconnected; metonymy often provides a primary mapping, a scaffolding on which metaphor can be built.

On this initial theoretical basis, the following chapter will focus on the notion of embodiment. Since both metaphor and metonymy are often grounded in embodied experience, it is important to arrive at a basic understanding of how the body serves as a baseline for conceptualization and how it can shape figurative thought and language.



### 3. Embodiment and Cognitive Linguistics

The last forty years have brought forth a great amalgamation of research, theories, and frameworks in cognitive linguistics. What started with Lakoff & Johnson's (1980, 1999, Johnson 1987) venture into metaphor, conceptualization, and the special role of the body in cognition soon became a new framework for understanding how the mind works. A paradigm shift in cognition research and cognitive linguistics opened the door for a wide range of fields to develop and inform each other, providing evidence for the theory of the embodied mind and making it an interdisciplinary enterprise from its inception. This characteristic, however, makes the field difficult to define and its assumptions and theories hard to delineate. Thus, in this section, I want to clarify exactly what I refer to when describing certain theories and research areas under the embodiment umbrella.

Before the paradigm shift in the late 1970s instigated by Lakoff and Johnson's (1980) and other cognitive linguists' work (Fillmore 1976, Talmy 1983, among others), cognitive linguistics could be described as *computational* rather than *organic* (Harris 2021: 361), in the sense that language was understood as a separate innate faculty (closely tied to Chomsky's generative linguistics) based on recurrent patterns and symbols like algorithmic codes running in the brain when language is processed. In contrast, cognitive linguists of the second generation focused on a more organic, that is experientially-based, understanding of language, which is the line of cognitive linguistics, from which I draw in this thesis. Shifting away from highly abstract computational and symbolic representations and formal operations upon them, embodied cognitive linguistics studies the phenomenological aspects of human experience and interaction with the world. The body with its senses, movement, spatial orientation, and past lived experience is seen as the basis of language as well as the driving force that shapes it. According to this view, both concrete and abstract concepts are based on embodied experience (Pelkey 2023: 2-3). This reflects a shift in the understanding of conceptualization and cognition, with implications that extend beyond the boundaries of cognitive linguistics itself.

#### 3.1 Embodied Cognition & Grounding

In *Philosophy in the Flesh*, Lakoff & Johnson (1999: 3) identify three insights that, in their view, summarize the progress of the last few decades of cognitive science: "The mind is inherently embodied. Thought is mostly unconscious. Abstract concepts are largely metaphorical." While there is still debate about the extent and intricacies of embodiment (see Mahon 2015, Mahon & Caramazza 2008), these insights nonetheless mark a significant

reorientation across philosophy, cognitive science, psychology, and linguistics. Dualism – the separation of the body and mind – which has dominated Western philosophical, scientific, and even cultural thinking for centuries is increasingly being challenged. Reason, as Lakoff & Johnson (1999: 4) argue, is not a disembodied faculty but shaped by our human bodily experience, including unconscious neural processes, networks or sensorimotor systems, and even emotions and metaphorical thought.

In this thesis, I use the term *embodiment* in line with the embodiment hypothesis, which “holds that all of the conceptual abstractions, imagined situations, and other seemingly abstruse linguistic abilities that inform meaningful human thought and interaction are ultimately grounded in our bodily experience in the world” (Pelkey 2023: 4). More specifically, the embodied perspective on language I adopt roughly follows the tenets of embodied cognition theory and its hypotheses. A landmark in this field is Varela, Thompson, and Rosch’s *The Embodied Mind* (1991), often described as the instigator of embodied cognition, as it set out a new direction for cognitive science. Its central themes, innovative approach, and critique of traditional models of cognition have since become foundational in this field (Shapiro 2019: 59). Today, scholars often refer to embodied cognition as an enterprise or program rather than a single theory, reflecting both its interdisciplinary nature and the diversity of perspectives, approaches, and methodologies it encompasses. Its roots lie in phenomenology, ecological psychology, conceptual metaphor, and researchers differ in how strongly they emphasize the role of the body in cognition (Shapiro & Spalding 2021).

Despite this diversity, Shapiro (2019: 4–5), Shapiro & Spalding (2021), and Pelkey (2023: 6) identify several recurring themes or *levels* of embodiment that help organize different approaches. The first is *conceptualization*, which I shall elaborate on below, and it refers to how the body defines the kinds of concepts the mind can form. A second theme is *replacement*: a move away from the traditional computational-symbolic, amodal view of cognition toward perspectives that emphasize lived, experiential processes. Tying in with replacement is *constitution*, which addresses the question of which aspects of cognition are to be considered constitutive. The traditional view that computational brain processes caused by stimulation are constitutive of cognition clashes with the view that the body and the environment act as constituents for (as parts of) cognition and not merely as causes (Shapiro & Spalding 2021). Embodied approaches argue that the body and environment may themselves be constitutive parts of cognition. For example, processes such as memory, attention, or language use might not be fully explained by neural activity alone. This theme overlaps most closely with (radical) enactivism, which highlights the absolute interrelation of the brain with the body and the

environment. Enactivists support an integrative dynamic view, in which the whole organism, its sensorimotor system, and its ecological context form a single cognitive system (Pelkely 2023: 6-7).

Enactive is also one of the characteristics of the 8Es of cognition: embodied, embedded (highlighting context & environment), enacted (the dynamic interplay of perception, action, and environment – including other living systems), extended (including body-external media), ecological (emphasizing biological and environmental factors), emotional (stressing the importance of affect in conceptualization), evolutionary (foregrounding the interrelation of environment and humans in the evolutionary process) and lastly exaptative (highlighting how evolutionarily simple structures are adapted for higher-level tasks) (Pelkely 2023: 7). These dimensions – Shapiro’s (2019) levels and the 8Es of cognition – illustrate the scope and heterogeneity of embodied approaches.

In practice, scholars in neuroscience, cognitive linguistics, and psychology often move fluidly between these perspectives, depending on their research aims (Pelkey 2023: 7). Despite this flexibility, it is essential to note here that there is an ongoing debate about the nature and scope of embodiment. Again, radical enactivists propose that the body, mind, and environment are integrated in such a way that cognition is not a separate occurrence in the brain, but rather in the interaction of all three. Barsalou (2008: 619) suggests that bodily states can be a source of information for grounding and simulation, but cognition can function independently of the body. Grounded cognition remains firmly in favor of a modal representation in cognition. Naturally, there are proponents of both strong (or radical) and weak embodiment theories. Mahon (2015) questions this divide and goes even further, asking what is actually embodied about cognition. To hedge the claim that concepts are entirely embodied, some views suggest weak embodiment, implying that cognition involves some sensorimotor content while others, described as disembodied views stipulate that cognitive processes only cause sensorimotor activation. Mahon (2015: 423) explains that the distinction between strong and weak embodiment is as such: “‘weak’ embodiment is not embodiment at all – it is the (old) view that concepts are amodal, adjoined to the (new) hypothesis that conceptual processing leads to sensory/motor activation”. He concludes from his discussion that “concepts are represented in an amodal format” but “there is interactivity between amodal concepts and sensory/motor systems” (Mahon 2015: 424). This is the answer he suggests for the question of the grounding of concepts. Conceptual format is not necessarily embodied (especially in a weak embodiment view) but it can still be *about* sensorimotor information (Mahon 2015: 425-426). Additionally, Mahon (2015: 426) argues that the assumptions embodied cognition makes about the format of

conceptual representation lack consistent evidence and he describes them as “premature because we need a theory of how activation spreads before inferences about representational format can be drawn with any confidence, and underdetermined because once a theory of dynamics is adopted, both embodied and disembodied theories predict sensorimotor activation during conceptual processing”. Consequently, Mahon (2015) calls for a reconsideration of the question of whether cognition is fully embodied or not. For the purposes of this thesis, these debates underscore that there is no absolute consensus on embodiment yet, despite the extensive research in neuroscience, psychology, and cognitive linguistics. However, I argue that these discussions do not affect the applicability of the embodied cognition framework for this small-scale study on conceptual metaphor and body parts.

Having acknowledged these debates, I now turn to the most widely adopted position within cognitive linguistics, which provides a foundation for the approach taken in this thesis. This position aligns with the first of Shapiro’s (2019) levels, and it states that the human conceptual system organizes and structures our experiences with the world and our interactions with others. Lakoff & Johnson (2003: 3-4) argue that this system operates largely unconsciously and is fundamentally metaphorical. At the core of their embodied approach lies the question of how this conceptual system is grounded. Lakoff & Johnson (1999: 22) propose that “human concepts are not just reflections of an external reality, but that they are crucially shaped by our bodies and brains, especially by our sensorimotor system”. Shapiro (2019: 80) terms this the *conceptualization hypothesis*: “The kind of body an organism possesses constrains or determines the concepts it can acquire”. Indeed, this hypothesis has been empirically tested in neuro-psychological and linguistic research (Shapiro 2019: 91-96). Littlemore (2019) provides concrete examples of sources for variation in embodied metaphor, such as gender, disability, mental disorders such as schizophrenia, or other physical factors.

While the conceptualization hypothesis emphasizes bodily constraints on thought, other scholars extend this by questioning whether perception and conceptualization can be meaningfully separated at all, leading some to endorse a more integrative enactive understanding of cognition. The idea here is that the distinction between the conceptual and the perceptual system is blurry or even nonexistent. Lakoff & Johnson (1999: 37-38, italics in original) write: “In an embodied mind, it is conceivable that the same neural system engaged in *perception* (or in bodily movement) plays a central role in *conception*. That is, the very mechanisms responsible for perception, movements, and object manipulation could be responsible for conceptualization and reasoning.” Findings from neural modeling studies suggest that the same neural mechanisms employed for perception and motor control may also

underpin abstract reasoning. Lakoff & Johnson (1999) refer to these and take such results as evidence for their view that conceptualization is grounded in sensorimotor processes.

Since the turn of the millennium, the embodied paradigm has generated a substantial body of both theoretical and empirical research. Nonetheless, this field still lacks comprehensive empirical evidence and scientific consensus on many core questions. It remains premature to provide any definitive statements on whether “thinking with the body” is an accurate way to describe embodied cognitive processes (Shapiro 2019: 69, citing Clark 2008). The essential notion in this discussion is that the sensorimotor system may be involved in the representation of concepts, learning (of language), and abstract reasoning. Lakoff & Johnson (1999:43) argue that human cognition likely evolved from more primitive sensorimotor brain structures, which are still central to conceptual processing. Yet, the question of how precisely cognition and the body interact in the brain remains and cannot be fully addressed here. Psychologist and cognitive scientist Lawrence Barsalou (2008: 618-619) offers a valuable framework to possibly answer this question with the concept of grounded cognition:

Grounded cognition theory, he explains, rejects the traditional view that cognition runs on amodal symbols, meaning separately of the modalities in the brain for action and perception. Instead, it proposes that cognitive processes draw on multimodal representations derived from bodily experience, situated action, and environmental interaction. This new understanding can present itself in various forms, with some focusing on the body and bodily states, action or interaction, and the environment, while others highlight the importance of simulation in cognition (Barsalou 2008: 620-623). Yet again, permeable boundaries separate the different lines of research in this field. However, virtually all approaches converge on the idea that cognition is not (solely) grounded in abstract symbols but in the modalities of the brain, which can include bodily states and experiences. Barsalou (2008: 619) adopts a more inclusive approach to the term “grounded” and categorizes embodied cognition as a subset of grounded cognition, noting that not all grounded accounts treat the body as central to cognitive processes. Ultimately, grounding encompasses many forms, including embodiment, and is so fundamental to cognition that it may not be necessary to add the term *grounded* when speaking about cognition in the future (Barsalou 2008: 619).

To gain a more practical understanding of the mechanism of grounded cognition, I would like to elaborate on simulation and provide a simple example. Simulation is something that we can easily produce willingly, such as mental imagery, when we think about how a future event might look and feel, for example. However, simulation also occurs almost constantly on a

subconscious level, creating representations of concepts and knowledge gathered from experience or introspection to support cognitive processes such as language comprehension, memory recall, or action. According to grounded cognition, the brain draws on information from the modalities to create multimodal simulations of a concept or a category. It activates those simulations when that information is needed for a cognitive task. In other words, “[s]imulation is the reenactment of perceptual, motor, and introspective states acquired during experience with the world, body, and mind” (Barsalou 2008: 618). When one lights a candle, information from the sensorimotor system about the quick hand movements, the smell of the matches or the hot wax, the heat near the fingertips, and the light of the candle are merged to establish a representation of that action. Next time one thinks of lighting a candle, the sensorimotor system reactivates this multimodal representation to create a simulation of this action. Research in simulation encompasses various areas, including situation models, perceptual, motor, affective simulation, and gesture, to name a few (Barsalou 2008: 628-629). One such area that has been extensively studied is language comprehension. Pulvermüller (2005) demonstrated in an MEG study that when reading words related to an action involving a specific body part, the corresponding area of the motor cortex activates for meaning comprehension, indicating a simulation that occurs within a few hundred milliseconds. The same principle was also found during language development in infants. Even in the pre-linguistic period, babies cannot distinguish between non-native contrasting consonants when their speech production organs are blocked (by a teether, for example), which they are usually able to do in this stage of their development. This implies that an impairment does not only affect speech production but also speech perception, “suggest[ing] that a link between the articulatory–motor and speech perception systems may be more direct than previously thought and is available even before infants accrue experience producing speech sounds themselves” (Bruderer et al. 2015: 13535). Antognini & Daum (2019) illustrate how infants simulate dynamic action verbs in the sensorimotor cortex when they receive auditory input, suggesting that language development is tied to the development of the action domain in the brain. These studies on grounding and simulation highlight the connection between sensorimotor experience and conceptual development, laying the groundwork for understanding how even abstract thought, such as metaphor, is rooted in embodiment.

### **3.2 From Embodiment to Conceptual Metaphor Theory**

After having established the role that grounding and simulation play in cognition, I want to circle back to metaphor and embodiment. Lakoff & Johnson (1999: 45) offer the example



UNDERSTANDING IS GRASPING to illustrate how even abstract experiences and states are conceptualized by drawing mostly on sensorimotor domains. When one cannot understand an idea, it goes over one's head, where one cannot grasp it. They explain that conceptual metaphor is the cognitive mechanism that allows for the conceptualization of a more abstract idea by activating the physical action of *grasping* when referring to *understanding* in this case. Information from the perceptual system, like the mental image of something moving over one's head, is used for the conceptualization of a subjective experience. This domain is simpler, more concrete, and is based on everyday experiences that most humans can easily relate to. This is the first type of metaphor, the primary metaphor. Primary metaphors are acquired unconsciously, as part of the cognitive unconscious, and are pervasive across most languages. Since such embodied experiences are universal, so are their respective primary metaphors. The same principle holds for linguistic universals - they express conceptual universals. Lakoff & Johnson (1999: 57) describe the process as follows:

“Whenever a domain of subjective experience or judgement is coactivated regularly with a sensorimotor domain, permanent neural connections are established via synaptic weight changes. Those connections, which you have unconsciously formed by the thousands, provide inferential structure and qualitative experience activated in the sensorimotor system to the subjective domains they are associated with.”

Complex metaphors, on the other hand, are constructed from sets of primary metaphors within a cultural context, incorporating shared knowledge from cultural models and folk theories (Lakoff & Johnson 1999: 60). This distinction between primary and complex metaphors raises important questions regarding the universality versus cultural variation of metaphor. Lakoff & Johnson (2003: 57, italics in original) admit that “‘direct physical experience’ is never merely a matter of having a body of a certain sort; rather, *every* experience takes place within a vast background of cultural presuppositions”. Clearly, culture shapes every embodied experience, raising interesting questions about the interplay between universal bodily experience and culturally contingent conceptualizations. The next chapter will discuss these questions in more detail.

Concluding this section, these studies highlight the diversity of approaches to embodiment and grounding. While all reject the notion that cognition is merely the manipulation of amodal symbols in the brain, there is consensus about the assumption that embodiment exists on a spectrum. Sensorimotor experience can contribute to cognition to varying degrees.

In this thesis, I adopt a perspective on embodiment aligned with Lakoff & Johnson's (2003[1980] & 1999) works, corresponding to Shapiro's (2019) first theme of embodied cognition, namely conceptualization. Moreover, Lakoff and Johnson's embodiment theory falls under the broader framework of grounded cognition (Barsalou 2008). Despite its origins in the last century, embodiment theory also aligns with a modern approach to cognition (Kraska-Szlenk 2019: 1). Ultimately, it is compatible with a cognitive linguistics approach to metaphor and suitable for a better understanding of the conceptualization of body part terms.

## **4. Embodiment & Cultural Models**

This section explores the tension surrounding the grounding of conceptual metaphors, which is linked to the broader debate on universality versus cultural specificity in conceptualization. I will provide an overview of the differing perspectives on this debate, discuss some criticism, and lay out the position I assume in this project. If, as most CM theorists claim, conceptual metaphors structure reason (i.e. understanding) and are grounded in experiential embodiment, they must be more or less universal across different languages and cultures since all humans share a similar embodied experience. According to this view, universal metaphors do not simply underlie thought but also provide the groundwork for the development of cultural models and set limits on how cultural variation can occur. This position is widespread among cognitive linguists from the 1990s onwards, but it contrasts with anthropological accounts (see Quinn 1991 below) that view cultural models as formed by culturally shared understandings

Lakoff & Johnson (1999: 6) suggest that “[t]he mind is not merely embodied, but embodied in such a way that our conceptual systems draw largely upon the commonalities of our bodies and of the environments we live in. The result is that much of a person's conceptual system is either universal or widespread across languages and cultures” Similarly, because all humans across the globe share broadly the same bodily features, Pelkey (2023: 8) proposes that “some aspects of our lived experience in the world may reasonably be expected to transcend cultural and regional conditioning, enabling a shared substrate for mutual understanding, learning, translating, and communicating”. Similarly, Littlemore (2019: 2) emphasizes that “physical human experiences form the basis of a very large number of metaphors, and most, if not all, abstract phenomena are understood through metaphors, many of which are based on bodily experiences”. Other cognitive linguists have adopted a broader, less radical position on embodiment. For instance, Barcelona (2003: 2) argues that “there is a continuum between all sorts of cognition (especially body-based cognition, but also cognition acquired on the basis of social and cultural experience) and language [...]”. This position aligns well with the approach



I adopt in the empirical part of this thesis, yet other accounts, such as the one below, still influence my interpretation.

In contrast to the above views, cognitive anthropologist Naomi Quinn offers a differing perspective on the universality versus cultural specificity debate. For her, “culture plays a central, profound role in human understanding” (Quinn 1991: 57). In line with Quinn’s perspective, I adopt her definition of culture as “the shared understandings that people hold and that are sometimes, but not always, realized, stored, and transmitted in their language” (1991: 57). She argues that contrary to the claims above, metaphors do not have a constitutive function for cultural models – metaphors do not structure cultural models, they reflect them instead. Conceptual metaphors are chosen to complement preexisting cultural models (Quinn 1991: 60). Quinn (1991: 60) further argues that metaphors rarely generate new entailments; any implications of a given metaphor can usually be traced back to the entailments of the respective cultural model. Her main critique targets the cognitive linguistic assumption – particularly CMT – that understanding relies largely on universal, experiential metaphorical mappings and networks. Quinn also critiques Lakoff & Johnson’s methodology as de-contextualized, lacking in-depth natural discourse analysis (Quinn 1991: 91). In her own discourse analysis of the concept of marriage in US culture, Quinn found that rich speaker data produced convergent evidence for cultural understandings of marriage beyond a focus on metaphor alone. She concludes that “metaphor plays a comparatively minor role in constituting our understanding of our world, and that a relatively major role in constituting this understanding is played by cultural models of that world” (Quinn 1991: 91).

This critique is valid; however, a careful reading of Lakoff & Johnson’s work reveals that the distinction between conceptual metaphor-based understanding and understanding grounded in culturally shared knowledge is not as sharply delineated as Quinn seems to suggest. Lakoff & Johnson (2003: 57) concede that “what [they] call ‘direct physical experience’ is never merely a matter of having a body of a certain sort; rather, every experience takes place within a vast background of cultural presuppositions” (Lakoff & Johnson 2003: 57). They further clarify that “all experience is cultural through and through, that we experience our ‘world’ in such a way that our culture is already present in the very experience itself” (Lakoff & Johnson 2003: 57). Similarly, they note that “the conceptual systems of cultures and religions are metaphorical in nature. Symbolic metonymies are critical links between everyday experience and the coherent metaphorical systems that characterize religions and cultures” (Lakoff & Johnson 2003: 40). Importantly, direct physical experience is not intrinsically more basic and foundational than emotional or cultural experience. Conceptualization, however, often

functions by mapping a non-physical concept onto a more concrete, clearly outlined physical concept (Lakoff & Johnson 2003: 59). Moreover, “no metaphor can ever be comprehended or even adequately represented independently of its experiential basis” (Lakoff & Johnson 2003: 19). A brief example metaphor analysis will illustrate these ideas in the following paragraph.

Conventional, everyday expressions often underlie foundational metaphor systems of understanding. For example, CLOSENESS IS HEAT serves as a structural conceptual basis for an expression like *a warm hug*. Conceptual systems like this account for sets of correspondences and new entailments, enabling the creation of innovative metaphors, such as *a glowing bond*. Even primary metaphors such as CLOSENESS IS HEAT are part of larger structures that organize different aspects of concepts like relationships, proximity, intimacy, and the like. Other primary, that is basic or foundational, conceptual metaphors create networks from which complex metaphors can emerge. Heat, as an early and universal bodily experience, is mapped unconsciously onto closeness.

Heat is most likely experienced in bodily contact situations at the beginning of life and mapped onto closeness almost automatically. Furthermore, it is a universal experience, one can safely assume that primary metaphors like this exist in most cultures. Thus, this primary embodied experience is the source domain for many more abstract concepts. Conceptual metaphors such as EMOTIONAL INTIMACY IS PHYSICAL CLOSENESS, INTENSE EMOTIONS ARE HEAT, AFFECTION IS WARMTH are all related to this primary metaphor. From these, more complex and potentially culture-specific mappings can arise, such as INTENSE EMOTIONS ARE LIQUID IN A CONTAINER or LACK OF LUST IS COLDNESS (Master Metaphor List 1991). While these examples are somewhat generalized and the level of specificity here is still low, many everyday expressions demonstrate that the line from primary to complex and language or culture-specific metaphor is not always easily traceable. Barcelona (2003: 6) offers a middle-ground solution:

“Metaphors and metonymies are to a large extent culture-specific, because the domains of experience are not necessarily the same in all cultures, but the most abstract, overarching metaphors and metonymies seem to have as input or ‘source’ domains universal physical notions like ‘verticality’, ‘container’, etc., known as ‘image schemas’, which are acquired on the basis of our earliest bodily experiences”.

This argument suggests that the level of specificity, rather than the metaphor itself, determines whether universality prevails over cultural variability.

The conclusion drawn from the preceding examples and theoretical discussions I surveyed in this section is that “universal primary experiences produce universal primary

metaphors” while “[t]he combinations of primary metaphors may be language-specific”, as Kövecses (2005: 4) concisely put it. “The point is that the primary metaphors are likely to be universal, whereas the complex ones that are formed from them are much less likely to be so. Cultures greatly influence what complex conceptual metaphors emerge from the primary metaphors” (Kövecses 2005: 4). Although this is necessarily an over-simplified account of the organization and grounding of metaphor systems, it forms the working hypothesis. It informs the angle from which I will approach the data in my analysis.

#### **4.1 An Attempt at Balancing Universality and Cultural Variation**

Over the last two decades, the intersection of universality and cultural variation in conceptual metaphor research has garnered increasing attention (Kövecses 2000, 2005, 2010; Niemeier 2008; Sharifian, Dirven, Yu, Niemeier 2008; Maalej & Yu 2011; Mischler 2013; Kraska-Szlenk 2019; Kóczy & Sipőcz 2023). The central issue here is how to interpret the relationship between universal bodily experience, primary and complex conceptual metaphors, and culturally grounded models.

To address this issue, I draw on Kövecses' comprehensive works again, which build on and extend Lakoff & Johnson's original CM framework with theories of culture, embodiment, and emotion within the broader context of conceptual metaphor and cognitive linguistics. In his monograph titled *Metaphor in Culture* (2005), Kövecses offers detailed explorations of the relationship between conceptual metaphors and cultural models. He emphasizes that “[c]onceptual metaphors converge on, and often produce, cultural models that operate in thought. These are structures that are simultaneously cultural and cognitive [...] in that they are culturally specific mental representations of aspects of the world” (Kövecses 2005: 7). The idea expressed in this quote is that cognitive processes such as the conceptualization of body parts cannot be decontextualized from their cultural backdrop. Similarly, embodied experience always occurs within a cultural context. The challenge that presents itself is thus how to distinguish culturally shared and preferred ways of thinking from universally embodied experiences when analyzing metaphorical conceptualizations.

A helpful starting point is to revisit the distinction between primary and complex metaphors. There is little contention about the universality of metaphors at the very basic end of the spectrum of specificity. Primary embodied human experiences give rise to primary metaphorical mappings, which tend to be universal across cultures and languages. As in the example previously discussed, the mapping of affection as warmth is assumed to derive from

universal bodily experience. Other often cited examples of primary conceptual metaphors include GOOD IS UP or TIME IS MOTION, which are grounded in embodied experience and serve as good illustrations for this seeming universality. Several such primary metaphors can be added to form a more complex structure of metaphorical mappings (complex metaphors), supplemented with cultural knowledge. LIFE IS A JOURNEY, for example, can be understood by drawing on the primary metaphors TIME IS MOTION, PROGRESS IS FORWARD MOTION, or PURPOSES ARE DESTINATIONS or DIFFICULTIES ARE IMPEDIMENTS. These combinations are likely to vary across cultures or result in slightly or greatly different complex metaphors. Many complex metaphors do not exist in other languages and cultures because they are grounded in different shared understandings of the world. From this observation, one might propose a solution to the conflict of universality versus cultural variation: Primary metaphors, particularly those derived from embodied experience, are universal, whereas complex metaphors are subject to variation across languages and cultures. In line with this, Lakoff & Johnson (1999: 60) suggest that complex metaphors consist of a network of primary metaphors combined with common knowledge from cultural models. Sharifian, Dirven, Yu & Niemeier (2008: 10) agree that this “decompositional” view of primary versus complex conceptual metaphors accounts better for the interplay between culture-specific variation or universality.

Kövecses (2005: 4) demonstrates, however, that this division is too simple. He offers a more nuanced and comprehensive perspective that moves beyond such neat explanations. He illustrates his position with the example of anger (which I will touch upon only briefly here), and the following set of claims serves primarily as guiding hypotheses for the empirical analysis in this thesis.<sup>3</sup>

- (1) “Universal experiences do not necessarily lead to universal metaphors”
- (2) “Bodily experiences may be selectively used in the creation of metaphors”
- (3) “Bodily experience may be overridden by both culture and cognitive processes”
- (4) “Complex metaphors may be potentially or partially universal”
- (5) “Metaphors are not necessarily based on bodily experience – many are based on cultural considerations and cognitive processes of various kinds” (Kövecses 2005: 4).

In his discussion of the conceptualization of anger, Kövecses (2005) compares the English, Hungarian, Japanese, and Chinese models, each of which reflects the folk understanding of this emotion. It is important to note here that a folk understanding does not capture the physiological

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<sup>3</sup> I excluded “primary metaphors are not necessarily universal”, as I did not go into detail about this assumption in my analysis.

or psychological reality of a concept like anger itself but rather represents collectively shared knowledge of its phenomenological experience. Moreover, the term cultural model nowadays replaces that of folk theory. Kövecses (2005: 195) suggests “metaphors and metonymies associated with anger converge on and constitute the model, and the different metaphors and metonymies map onto different parts of the model”. In the case of anger, Kövecses identifies a basic model, what he calls a “basic skeletal structure” that captures the prototypical elements of the experience across languages. This structure, which appears in all four of the languages he studied, is composed of several mappings, where certain aspects of the experience of anger are chosen: the heat or pressure of the substance corresponds to the intensity of the anger; containing the substance represents the effort to control the emotion; and the substance forcefully exiting the container reflects the overt expression of anger (Kövecses 2005: 198). From this analysis, he concludes that “the conceptual metaphors and metonymies contribute actively to the structure and content of the prototypical cultural models (Kövecses 2005: 199).

In an earlier analysis of the cognitive model of anger, Lakoff & Kövecses (1987) had examined metonymies and metaphors tied to HEAT, PRESSURE, and INTENSITY. They compared these with the findings from the Ekman group, founded by psychologist Paul Ekman and colleagues. These two studies were completely independent of each other. The former (Lakoff & Kövecses 1987) was a cognitive linguistic analysis of expressions and conceptual metaphors, while the latter was a study of the physiological and psychological expressions of anger (Ekman, Levenson, & Friesen 1983). Despite these differences in research interest and design, their results converged. Lakoff & Kövecses (1987: 219) found that the “cultural theory of the physiology of anger corresponds remarkably well with the actual physiology: when people experience anger their skin temperature and pulse rate rises”. Even though this conceptualization of anger was considered a folk theory (a way that ordinary people conceptualize their physical response), it nonetheless aligns with Ekman’s empirical results and is reflected in everyday metaphorical expressions. They conclude that “many of the details of the way we conceptualize anger arise from the autonomic nervous system, and that the conceptual metaphors and metonymies used in understanding anger are by no means arbitrary; instead they are motivated by our physiology” (Lakoff & Kövecses 1987: 219).

This convergence of results suggests that the cultural model of anger can, in some cases, mirror conceptualizations grounded in embodied experience. Anger serves as a particularly useful example, since its metaphorical (and metonymic) structuring occurs at the very primary end of the spectrum. Yet, it remains uncertain whether cultural models always reflect conceptualization grounded in embodied experience on a larger scale. In his later discussion of

anger, Kövecses (2005: 199) addresses this issue again, offering the example of the Zulu, where anger is perceived as residing in the heart as a pressurized container. In this cultural model, the concepts HUNGER and NATURAL FORCE for anger are also more prominent in the conceptualization of anger than in the other languages examined.

Complementing this observation, Geeraerts and Grondelaers (1995: 162) demonstrate that many English expressions related to anger are actually rooted in the traditional cultural model of the four humors, where anger produces one of them. Their findings showcase that cultural models can draw not only on embodied experience but also on historically transmitted medical or religious systems of knowledge. This perspective does not negate the bodily-experiential basis of anger, but rather shows how cultural models can mediate the way emotions, such as anger, are conceptualized and expressed, complementing or even shaping the underlying physiological experiences.

These accounts taken together illustrate that the ever-present cultural backdrop can influence even primary metaphors and metonymies in subtle ways. Kövecses (2005: 199-200) concludes his discussion of anger by suggesting “that we can offer a satisfactory explanation of the emergence of cultural models if we take into account the possibly universal experiential basis of most of our abstract concepts, the conceptualization of this experiential basis by means of conceptual metonymies, the conceptual metaphors that often derive from these metonymies, and the broader cultural context” Yet, the emergence of cultural models is not a linear process; it is more appropriate to describe it as a co-creation of a cognitive frame, where (embodied) experience, cognitive processes, and culturally shared experience and knowledge intersect. Causes of variation are numerous, ranging from personal, linguistic, and cultural history and context to different cognitive preferences and styles (such as prototypes, frames & viewpoint preferences) (Kövecses 2005: 231-258). In summary, Kövecses (2005: 200) writes, “the conceptualized experiential basis (often appearing as conceptual metonymies) and the emerging conceptual metaphor contribute to the basic schematic structure of the cultural model, and the simultaneously present cultural context fleshes out the details of the schema”. In my analysis, I want to determine whether this description can be applied to my data as well and which embodied experiences and cultural models account for universality or variation in the conceptualization of the head and the heart.

## 5. Body-Part Metaphors

The following chapter will open with an introduction to body-part terms and metaphors, followed by a concise exploration of the cultural significance of body parts – particularly the head and the heart – and their relation to embodiment theory. This provides a basis for a more detailed discussion of the concepts HEAD and HEART and the metaphors and metonymies that often structure their conceptualization. Cultural Models and dualisms of Western philosophical thought will be introduced, and finally, I will also survey a small selection of studies of *head* and *heart* metaphors from a cross-linguistic/cross-cultural perspective before turning to English and German expressions in the empirical part of this thesis.

Over the last two decades, numerous edited volumes, multi-authored publications and journal articles were published on body-part conceptualizations and conceptual metaphors in diverse languages and cultural contexts (Sharifian, Dirven, Yu & Niemeier 2008; Maalej & Yu 2011; Brenzinger & Kraska-Szlenk 2014; Kraska-Szlenk 2019 & 2020; Kóczy & Sipőcz 2023). An important reason for this increased interest is that body parts are universally experienced since humans usually share the same bodily features. Experiences with them are readily available, even when simulated mentally, and they provide a natural basis for conceptualization. Indeed, body-part terms are arguably the most prototypical words in the embodied lexicon and exist in all described languages of the world with a high frequency (Kraska-Szlenk 2019: 2). They often are of ancient origin, belonging to the core vocabulary of most languages and are very rarely borrowed (Kóczy & Sipőcz 2023: 3).

Body parts also serve as productive source domains across many languages. Because lexemes like *head* and *heart* have the same corporeal meaning across languages, they offer linguists a chance to study the emergence of additional meanings from the most fundamental, physical ones (Kraska-Szlenk 2019: 2). A substantial body of literature indeed documents common cross-linguistic tendencies of body part term transfers, including the widespread association of body parts with emotions (Mol 2004, Kövecses 2005, Kraska-Szlenk 2014, Siahaan 2008) or their use in grammaticalization processes<sup>4</sup> (Heine 2014). There are also important publications in the study of culture-specific meanings and idioms that emerge from cultural models and practices (Maalej & Yu 2011, Brenzinger & Kraska-Szlenk 2014).

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<sup>4</sup> An example of grammaticalization is *head of the line*, where the meaning of *head* is extended from a body part to mean a leading position in a sequence, turning *head* into a spatial marker.

Among important body parts, the head is certainly one of the most prominent. Its topmost physical position and its function as the host of the mind in the Western tradition have made it an appealing subject of scholarly interest. A number of cross-linguistic collections have examined head conceptualizations, for example, *Embodiment in Cross-Linguistic Studies – the Head* (Kraska-Szlenk 2019) and *Culture, Body, and Language* (Sharifian, Dirven, Yu & Niemeier 2008) (which includes Ning Yu's (2008) discussion of the Chinese heart as a faculty of cognition). Many publications have studied head metaphors across a wide range of languages, such as Chinese (Yu 2013, Luo 2019), German and Indonesian (Siahaan 2011), Tunisian Arabic (Maalej 2014) and English (Mol 2004, Niemeier 2008). The conceptualizations and extensions of the meaning of the head are manifold and varied, particularly when comparing languages of different cultural traditions. My analysis, however, will focus on the more subtle differences between head and heart conceptualizations in the two closely related languages English and German.

Equally as central to the human body is the heart, though unlike the externally visible head, it is hidden. Similar to the head, however, the heart shows extensive polysemy and appears in a wide range of metaphors and metonymies in many languages and cultures. This has been studied in numerous cross-linguistic collections as well, such as *Embodiment in Cross-Linguistic Studies – The Heart* (Kóczy & Sipőcz 2023), including Maalej (2023) and, once again, *Culture, Body, and Language* (Sharifian, Dirven, Yu & Niemeier 2008), which also includes chapters on the Japanese conceptualization of *kokoro* 'heart' (Occhi 2008), and the heart in Tunisian Arabic (Maalej 2008). Other studies across languages to mention here are Hungarian (Kóczy 2023), English (Niemeier 2003, 2008; Mol 2004), and Chinese (Yu 2008), which demonstrate how the heart is conceptualized not only as the seat of emotion but also as a locus of moral, cognitive, and even spiritual functions. These publications collectively illustrate the salience of the heart in many cultures worldwide and provide insight into the breadth of figurative extensions associated with the heart, ranging from embodied experiences (heartbeat, blood pressure) to culturally shaped conceptualizations (as in the phrase *a lack of heart*). The heart's embodied meaning and its symbolic weight in different traditions make it one of the most productive body parts for metaphorical and metonymic usages. To better understand the conceptualizations of these two essential body parts, it is necessary first to consider the philosophical and cultural traditions in which the head and the heart are embedded.



## 5.1 Cultural Models of the Mind in the Body

What makes human experience so intriguing is our remarkable capacity for complex cognitive tasks, such as thinking, feeling, knowing, planning, and communicating. In contemporary *Western* thought, the mind is usually understood as the seat and agent of these processes. Yet, across cultures, philosophies, and medical traditions throughout history, the mind has been placed in different parts of the body. According to Sharifian, Dirven, Yu, Niemeier (2008: 3-4), “[t]he major loci have been the abdomen region, the heart region and the head region or, more particularly, the brain region. These three types of conceptualizations can be labeled “abdominocentrism”, “cardiocentrism”, and “cerebrocentrism” (or “cephalocentrism”), respectively”. Abdominocentrism can be found in Southern Asian and Polynesian cultures and languages, such as Indonesian. Some aspects of it also appear in Chinese and Greek traditions, where the liver is also associated with certain mental processes. Since this thesis focuses on the head and the heart, the organs of the abdomen will not be considered further here. Cardiocentrism, by contrast, is a prominent aspect of Chinese culture and medicine, and can also be found in the traditional views of Japan and Korea. In West Asian, European, and North African cultures influenced by ancient Greek medicine and philosophy, several dualistic models can be found that continue to influence *Western* thought to this day. The most enduring is the mind-matter dualism, with its application to the body, specifically the distinction between the head (mind/brain) and the heart. Although the divide between the head, as the seat of reason, and the heart, as the seat of emotions, had existed since Plato, it had not yet reached its peak and gained new cultural importance in later centuries. The Catholic church, with its authority at the time, proposed the heart as the symbolic center of the body and faith during the medieval period and beyond. René Descartes’ philosophy (in tandem with the discovery of the physiology of the heart as an organ) established and reinforced the mind as the disembodied locus of the intellect, situated in the head. This shift in thought had far-reaching consequences for West Asian and European philosophy, as well as culturally significant and even linguistic implications – including the gradual replacement of many *heart* expressions by *head* expressions (Sharifian, Dirven, Yu, Niemeier 2008: 4-7).

The theory of embodiment, as described in Chapter 3, challenges this philosophical divide. It proposes that cognition is not disembodied but predominantly shaped by embodied experience. Furthermore, it claims that even more abstract cognitive domains – such as thought, emotion, and language – are fundamentally grounded in more concrete domains, including the conceptualization of the human body and its parts (Sharifian, Dirven, Yu, Niemeier 2008: 7).

From this perspective, the concept of *embodiment* extends beyond the “bodily, experiential basis underlying human interaction” to the broader claim that the conceptualization of simple and abstract notions ultimately relies on an experientially grounded embodied mind, as described above (Brenzinger & Kraska-Szlenk 2014: 1). Regarding terminology, it is also essential to distinguish between *bodily* and *embodied*. The former refers to the concrete human body or its parts, while the latter relates more broadly to the cognitive processes grounded in bodily experience. Not all embodied metaphors rely directly on the body or a body part as their source domain; some are indirectly mediated through the experience of living in a body. In the framework of this thesis, however, the focus will be solely on body-part metaphors.

## Part 2: Empirical Study

### 6. Methodology

#### 6.1 Corpus and Data Retrieval

The data for this study was retrieved from Sketch Engine, an online corpus query system widely used in corpus linguistics. For English, the *English Web Corpus* 2021 was used (size: 52 billion words); for German, the *German Web Corpus* 2020 (size: 17 billion words). Both corpora are large-scale, web-based collections that encompass various genres. Sketch Engine (2025, online) describes the process of how TenTen Corpora are built on the website:

“Texts are crawled from the Internet by Spiderling tool, a web spider designed for linguistic purposes. Texts are cleaned by jusText which removes undesirable content such as navigation links, advertisements, headers, footers, etc. A tokenization process [sic!] when texts are separated into individual positions (tokens). Language Filter is used for language identification to detect and remove longer texts of different languages, but foreign words or phrases are kept (e.g. sentences with movie titles) [...]”.

To focus on more personal, informal, and contextually rich language use, the “Genre: Blog” subcorpus was selected for both languages. The English Blog subcorpus comprises approximately 1.3 billion words, while the German Blog subcorpus contains about 52 million words. Although I acknowledge the substantial difference in size, the German Web Corpus still allows for the best comparison to the much larger English one, both for practical reasons and due to the consistent design of these TenTen corpora.

In the English data, the *head* sentences drew on 151 blogs and the *heart* sentences on 146 blogs. The German sample is more limited, due to the smaller size of the subcorpus. For *Kopf* (head), the results were obtained from 8 blogs, with 104 of the 235 sentences (~44%) sourced from *motor-talk.de*. For *Herz* (heart), there were 7 blogs, with 136 of the 361 sentences (~38%) also from *motor-talk.de*. Since this blog is a forum for car enthusiasts, it features many passionate descriptions of cars, motorcycles and engines, as well as the frequent use of heart-related expressions such as *etwas ans Herz legen*. This strong presence of one blog source may therefore influence the distribution of figurative language in the German data.

After selecting the subcorpora, queries were constructed using the lemma form of each target body part, specifically focusing on its noun usage. For example, the query for *head* was:

Query:alemma,[lempos\_lc="(Head)-n"];Random sample:500;GDEX:500

Random samples of 500 concordance lines were extracted for each language and body part (English *head*, German *Kopf*; English *heart*, German *Herz*). The GDEX (Good Dictionary Examples) filter was applied to prioritize shorter, clearer contexts with fewer external references, facilitating reliable metaphor identification. A key advantage of Sketch Engine is that the 500 random lines can be regenerated by rerunning the same query, enabling other researchers to obtain the exact same set of examples used in this study, allowing for replicability. Moreover, the entire dataset I retrieved on Sketch Engine can be found in the appendix of this thesis.

For organizational purposes, each concordance line in the dataset was assigned a unique identification number. The project number and the source URL (webpage) of each line were added to the Excel list, along with the token count of the entire corpus from which it was drawn. Each metaphorical use of each lemma can thus be found both on SketchEngine and in my Excel sheets. Every example included in this thesis is accompanied by its source: first is the project code from the respective Excel list, referring to the corresponding number in my Excel list, followed by the URL and the token count.

## 6.2 Categorization of Metaphors & Metonymies

For an expression to be included in the final sample of sentences containing head/heart metaphors and metonymies, it must meet the following criteria:

1. Application of the MIP (Metaphor Identification Procedure) as formulated by the Pragglejaz Group (2007)

2. For metonymy: The expression must demonstrate a clear metonymic (that is, contiguity-based) relationship between the body part (*head* or *heart*) and another concept.

For example, *head* stands for the top part of an organization.

3. The expression must refer to one of the two focal body parts in a figurative manner. Expressions where the body part was present but not the focal point were excluded.

For instance, *Haare vom Kopf fressen* (to eat someone out of house and home, lit. to eat the hair off someone's head) or *a roof over the head* in English were thus excluded.

4. Expressions describing bodily reactions or symptoms in a non-metaphorical manner were excluded.
5. Phrases or idioms including other organs in addition to the focal body-part *head* or *heart* were also excluded.

For example, *auf Herz und Nieren prüfen* (to examine thoroughly, lit. to test on heart and kidneys) was excluded.

If the metaphoricity or meaning of a given metaphor or metonymy was unclear, the broader textual context was consulted by checking the entire paragraph or blog entry from which the sentence was drawn. If uncertainty remained, the example was also excluded.

### 6.2.1 The Metaphor Identification Procedure

The Metaphor Identification Procedure (MIP) was developed by the Pragglejaz Group (2007), comprising a group of nine scholars from diverse backgrounds. It provides a systematic method for identifying metaphorically used lexical units within discourse. According to the procedure, the identification process involves several analysis steps. First is familiarization with the text-discourse, the immediate context, followed by an analysis of each lexical unit in context, consisting of three steps:

1. A semantic analysis in order to understand the meaning in its context.
2. Determining whether its meaning is more basic (concrete, precise, related to bodily action or historically older) in other contexts.
3. Comparing the two meanings. If a more basic meaning exists that contrasts with the meaning in the given context, and if the contextual meaning can be understood in

comparison with the basic meaning, the unit is identified as metaphorical (Pragglejaz Group 2007: 3).

To demonstrate the application of the procedure to my dataset, I present two randomly selected examples. For the sake of efficiency and conciseness in this section, I occasionally grouped smaller lexical units together.

### **Example 1:**

*Worth re-reading with that question in the back of your head.*

- Identifier: project no. 26, monevator.com, #17998940421
- Source: <https://monevator.com/weekend-reading-guys-guys/>
- Text-discourse: Finance blog, topic: weekend readings, user comment on an article

worth

- Contextual meaning: In this context, the meaning of worth refers to the action of reading something again. It suggests that this action brings a certain value to the task.
- Basic meaning: The basic meaning of worth is rather concrete; it refers to the value of something concrete like money or a painting.
- Contextual meaning versus basic meaning: Even though *worth* in the given context is arguably highly lexicalized, there is a contrast between its concrete meaning on the one hand and contextual meaning on the other. The idea of value in a more abstract sense (the benefit of the action) is compared to the literal worth of something more concrete. The contextual meaning contrasts (albeit slightly) with the basic meaning and can be easily understood in comparison.
- Metaphorically used? Yes.

re-reading

- Contextual meaning: This lexical unit refers to the action of reading something again.
- Basic meaning: The basic meaning refers to a concrete action.
- Contextual meaning versus basic meaning: Both meanings are the same.
- Metaphorically used? No.

with the question

- Contextual meaning: The sense of a question accompanying an action has a rather abstract meaning. In this case, it can be considered as an extension of the more concrete meanings of with (e.g. accompaniment or proximity).
- Basic meaning: A more basic and concrete meaning exists but the difference is not significant enough to understand it in contrast to the contextual meaning.
- Contextual meaning versus basic meaning: On its own, this prepositional phrase has two slightly different meanings, but the relation is not metaphorical on its own.
- Metaphorically used? No.

in the back of your head

- Contextual meaning: The contextual meaning of *back* and *head* refers to something abstract, namely keeping something in mind while performing another action.
- Basic meaning: Back and head have basic and physical meanings which are separate from the meaning they hold in the given context.
- Contextual meaning versus basic meaning: One can argue that there is a metonymic relation between head and brain. However, the contrast between considering a question while reading and the back of the head (or the mental space) is clear and can be understood in comparison to each other.
- Metaphorically used? Yes.

Accordingly, the expressions *worth* and *in the back of your head* are the metaphorical units in this sentence. Arguably, other linguists and scholars might have different evaluations regarding the metaphoricity of specific lexical units. Nevertheless, this example is intended to illustrate the rationale of my analysis of the sentences in my sample.

## Example 2:

*Ich wünsche dir von Herzen alles Gute für die Zukunft!*

- Translation: I wholeheartedly wish you all the best for the future, lit. I wish you all the best for the future from [my] heart.
- Identifier: project no. 34, [innenaussen.com/#2430711470](http://innenaussen.com/#2430711470)
- Source: <https://www.innenaussen.com/2012/07/ich-verabschiede-mich.html>

- Text-discourse: Beauty and lifestyle blog, farewell message, user comment directed at the blogger.
- *Ich* and *dir* are not metaphorically used.

#### wünsche

- Contextual meaning: The verb *wünschen* refers to wishing or wanting something for another person in this context. The phrase “wünsche alles Gute” is highly lexicalized and is often used at the end of a conversation.
- Basic meaning: The basic meaning is the same as the meaning described above.
- Contextual meaning versus basic meaning: Since both meanings are identical, there is no contrast.
- Metaphorically used? No.

#### von Herzen

- Contextual meaning: It implies that something (a wish) coming *from the heart* is authentic, honest, and deeply felt or heartfelt, to use another metaphor.
- Basic meaning: The phrase *von Herzen* refers to something coming from the metaphorical heart space and is mostly understood figuratively (except for medical discourse). The basic meaning of heart refers to the organ or the symbol in other contexts.
- Contextual meaning versus basic meaning: The basic meaning stands in contrast to the contextual meaning, as the two refer to different conceptual domains. The phrase is interpretable through a comparison between the heart’s physical significance to the body and its culturally established role as the emotional center of a person, assuming familiarity with the Western cultural model of the heart.
- Metaphorically used? Yes.

#### alles Gute

- Contextual meaning: Literally translated, this phrase means *everything good* and can be described as wishing someone the best, which is the meaning in this sentence.
- Basic meaning: The basic meaning is equivalent to the meaning above, even though the meaning is rather abstract.
- Contextual meaning versus basic meaning: There is no contrast between both meanings.
- Metaphorically used? No.

für die Zukunft

- Contextual meaning: It refers to wishing someone well for the future. *Für* (for) points to the time that has not yet passed.
- Basic meaning: This phrase has no concrete meaning since *Zukunft* (future) is a more abstract concept but is still used in most contexts similarly to the contextual meaning. Thus, this meaning can be considered basic.
- Contextual meaning versus basic meaning: The meanings are equivalent to each other.
- Metaphorically used? No.

Accordingly, the metaphor in this sentence is based on *von Herzen* only.

### 6.3 Exclusion Criteria & Coding

Only metaphorical and metonymic expressions whose meaning could be understood in context were included in the analysis. Cases where the metaphor or metonymy remained unclear – even after reviewing the surrounding text – were excluded. In addition, metaphorical expressions involving explicitly religious references (e.g., *God's heart*) were excluded, as the analysis did not focus on religious conceptualizations, and I do not wish to engage in theological interpretation.

Of the initial 500 concordance lines, I identified 190 instances of metaphor for the lemma *head*, 383 for *heart*, 252 for *Kopf*, and 369 for *Herz*. After another close analysis, following the more precise exclusion criteria mentioned above, the final numbers for each lemma were:

- Head: 179 included sentences (36%), showing the lowest proportion of metaphorical usages among the four lemmas
- Heart: 299 included sentences (60%)
- Kopf: 235 included sentences (47%)
- Herz: 361 included sentences (72%), representing the highest proportion of metaphorical usages<sup>5</sup>

As the next step after determining figurative usage and excluding all unclear instances, each sentence was coded according to thematic domains, i.e., broader conceptual categories (e.g., cognition, emotion, conflict, centrality, etc.). Codes were assigned inductively, and within these

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<sup>5</sup> All percentages in this thesis are reported as whole numbers, with no decimals.



conceptual categories, distinct metonymies and metaphors were generated to allow for a detailed cross-linguistic analysis of all the specific instances of metaphor and metonymy that occurred with the four lemmas. Each metaphor and metonymy was assigned a unique code, and the normalized frequency for each code was calculated. The formulation of these codes is: MY for metonymy and MR for metaphor, followed by a slash and the abbreviation of the theme and a number. For example: MR/EM16 stands for metaphor, the theme emotion (EM), and number 16 is “PROXIMITY TO HEART IS EMOTIONAL SIGNIFICANCE”.

The following list introduces all themes, metaphors, and metonymies I retrieved inductively as a first step before coding each included sentence in my dataset. Since I have already outlined my position on the distinction between metaphor and metonymy, I will not elaborate on this further in this section. I acknowledge that readers may arrive at different evaluations here.

## 6.4 Overview of Themes

### Head and Kopf

- Emotion (EM)
- Expression (EX)
- Identity (ID)
- Heart As Object (OB)
- Intuition (IN)
- Contemplation (CO)
- Centrality (CE)
- Morality (MO)

### Heart and Herz

- Cognition (COG)
- Orientation (OR)
- Social Role (SR)
- Container (CON)
- Conflict (CF)
- Mental State (MS)
- Ignorance (IG)
- Identity & Self (IS)

## 6.5 Overview of Metaphors (MR) and Metonymies (MY)

### Head and Kopf (52)

#### Cognition

- MR/COG1 HEAD IS THE SEAT/SOURCE OF COGNITION
- MR/COG2 HEAD IS A RATIONAL AGENT
- MR/COG3 HEAD IS A (PHYSICAL) PROCESSING CENTER
- MR/COG4 HEAD IS SITE OF INTENTIONALITY
- MR/COG5 HEAD IS SEAT OF DECISION-MAKING
- MR/COG6 HEAD IS INSTRUMENT OF PERCEPTION

- MR/COG7 HEAD IS INSTRUMENT FOR REACTION
- MY/COG1 HEAD FOR REASON
- MY/COG2 HEAD FOR INTELLECT
- MY/COG3 HEAD FOR THOUGHT
- MY/COG4 HEAD MOVEMENT FOR ATTENTION<sup>6</sup>
- MY/COG5 HEAD MOVEMENT FOR REACTION<sup>7</sup>
- MY/COG6 HEAD FOR COGNITIVE CONTROL
- MY/COG7 HEAD FOR COGNITIVE PROCESSING/THINKING
- MY/COG8 HEAD FOR INTELLIGENCE

### Container

- MR/CON1 HEAD IS A CONTAINER FOR THOUGHTS
- MR/CON2 HEAD IS A CONTAINER FOR EMOTIONS
- MR/CON3 HEAD IS A CONTAINER FOR COLLABORATIVE THOUGHT<sup>8</sup>
- MR/CON4 HEAD IS A CONTAINER FOR OPINIONS
- MR/CON5 HEAD IS A CONTAINER FOR MEMORY
- MR/CON6 HEAD IS A CONTAINER FOR MENTAL MODELS/IMAGES
- MR/CON7 HEAD IS A CONTAINER FOR IDEAS
- MR/CON8 HEAD IS A CONTAINER FOR KNOWLEDGE (STORAGE)
- MR/CON9 HEAD IS A CONTAINER FOR (LIMITING) BELIEFS<sup>9</sup>
- MR/CON10 HEAD IS A CONTAINER FOR INTENTIONS
- MR/CON11 HEAD IS A CONTAINER FOR IDEOLOGY
- MR/CON12 HEAD IS A TRAP

### Mental State

- MR/MS1 HEAD IS THE SEAT OF EMOTIONS (EMOTIONAL REACTION)
- MR/MS2 HEAD IS A REFLECTION OF EMOTIONAL STATE/COGNITIVE DISTURBANCE
- MR/MS3 HEAD IS THE SEAT OF STRESS/WORRY
- MR/MS4 HEAD IS THE SEAT OF CALMNESS
- MR/MS5 HEAD IS THE SEAT OF CONFUSION

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<sup>6</sup> This code was mainly applied to idioms such as *heads up* or together with COG5 below in *head turner* expressions in English.

<sup>7</sup> In German, this code was often used in phrases such as *über etwas den Kopf schütteln* (to shake the head about smth.). Additionally, *a head scratcher* was also assigned this code in English.

<sup>8</sup> In both languages, the phrase *putting our heads together* (die Köpfe zusammenstecken) was assigned this code.

<sup>9</sup> I applied this code to sentences where the head contains stereotypes, wrong notions or old beliefs about oneself or others, including negative (or limiting) ones.

- MR/MS6 HEAD IS THE SEAT OF MENTAL OVERLOAD

### **Conflict**

- MR/CF1 HEAD IS A SITE OF CONFLICT<sup>10</sup>
- MR/CF2 HEAD IS A SITE OF ARGUMENT
- MR/CF3 HEAD IS A SITE OF (VIOLENT) IMPACT
- MR/CF4 HEAD IS A SITE OF (EMOTIONAL) ATTACK
- MY/CF1 HEAD FOR LIFE
- MY/CF2 IMPACT TO HEAD FOR THREAT TO LIFE
- MY/CF3 OVERTHINKING FOR IMPACT TO HEAD

### **Orientation**

- MR/OR1 HEAD IS MOST IMPORTANT PART
- MR/OR2 HEAD IS TOP PART (ALSO OF A HIERARCHY)
- MR/OR3 HEAD IS FRONT PART
- MR/OR4 SHIFT IN HEAD POSITION IS CHANGE

### **Social Role**

- MY/SR1 HEAD FOR LEADERSHIP ROLE
- MY/SR2 HEAD FOR PERSON IN CHARGE
- MY/SR3 HEAD FOR ORIGINATOR

### **Identity & Self**

- MY/IS1 HEAD FOR PERSON/PEOPLE
- MY/IS2 HEAD FOR PERSONALITY
- MY/IS3 HEAD FOR RATIONAL SELF

### **Ignorance**

- MR/IG1 HEAD AS SITE OF DENIAL OR AVOIDANCE
- MR/IG2 TURNED/BURIED HEAD IS IGNORANCE

## **Heart and Herz (60)**

### **Emotion**

- MR/EM1 HEART IS A CONTAINER FOR EMOTION
- MR/EM2 EMOTION IS A (CHANGING) IMPACT TO THE HEART
- MR/EM3 HEART IS THE SEAT OF HOPE
- MR/EM4 HEART IS THE SEAT OF INNER PEACE

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<sup>10</sup> This code serves as an umbrella code, a metaphor on the more primary end of the spectrum, referring to all sorts of conflicts between humans or otherwise specified in the sentences of the dataset.

- MR/EM5            EMOTIONAL EXPERIENCE IS PHYSICAL EXPERIENCE
- MR/EM6            HEART IS A CONTAINER FOR AFFECTION
- MR/EM7            HEART IS A CONTAINER FOR MEMORIES
- MR/EM8            HEART IS THE SEAT OF DESIRES
- MR/EM9            HEART IS A CONTAINER FOR GRATITUDE
- MR/EM10           HEART IS THE SEAT & SOURCE OF EMPATHY
- MR/EM11           HEART IS THE SEAT OF CONNECTION<sup>11</sup>
- MR/EM12           HAVING A HEART FOR SMTH IS AN EMOTIONAL CONNECTION TO IT
- MR/EM13           HEART IS THE EMOTIONAL PRESENCE (OF A PERSON)
- MR/EM14           HEART IS THE SEAT OF EMOTIONAL PROCESSING<sup>12</sup>
- MR/EM15           HEART IS THE SEAT OF ATTACHMENT TO SMTH/SB
- MR/EM16           PROXIMITY TO HEART IS EMOTIONAL SIGNIFICANCE
- MR/EM17           HAVING A HEART IS BEING EMOTIONALLY INVESTED
- MY/EM1            HEART FOR FEELINGS<sup>13</sup>
- MY/EM2            HEART FOR AFFECTIVE EXPERIENCE
- MY/EM3            HEART FOR COMPASSION
- MY/EM4            HEART FOR EMOTIONAL CAPACITY
- MY/EM5            HEART FOR EMOTIONAL SELF
- MY/EM6            HEART FOR EMOTIONAL STATE OF PERSON
- MY/EM7            HEART FOR AFFECTION
- MY/EM8            HEART FOR CONNECTION
- MY/EM9            HEART FOR DESIRE
- MY/EM10           HEART FOR COURAGE
- MY/EM11           HEART FOR LOVE
- MY/EM12           HEART FOR PASSION
- MY/EM13           HEART FOR EMOTIONAL DEPTH
- MY/EM14           HEART FOR EMOTIONAL ENGAGEMENT
- MY/EM15           HEART FOR HOPE

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<sup>11</sup> This code refers to connections between people but also connections one can feel to objects, places, or other entities.

<sup>12</sup> I applied this code to all sentences where the heart is metaphorized as the place where feelings are experienced and processed or where affective states are said to occur.

<sup>13</sup> This code functions as a broader category for feelings that are less clearly defined or tangible in contrast to the more specific ones below.

## **Expression**

- MR/EX1 HEART IS THE SEAT OF AUTHENTICITY
- MR/EX2 HEART IS THE SOURCE OF PASSION
- MR/EX3 HEART IS THE SEAT OF (EMOTIONAL) SINCERITY

## **Intuition**

- MR/IN1 HEART IS AN INTUITIVE GUIDE
- MR/IN2 HEART IS THE SEAT OF DEEP PERSONAL TRUTH
- MY/IN1 HEART FOR INTUITION
- MY/IN2 HEART FOR TRUTH

## **Contemplation**

- MR/CO1 HEART IS THE SEAT OF CONVICTIONS/BELIEFS
- MY/CO1 HEART FOR DEEP PERSONAL CONVICTIONS<sup>14</sup>
- MY/CO2 HEART FOR SPIRITUAL CONVICTIONS
- MY/CO3 HEART FOR INTENTION

## **Morality**

- MR/MO1 HEART IS THE SEAT OF DEEP CONTEMPLATION
- MR/MO2 HEART IS THE SEAT OF MORALITY
- MY/MO1 HEART FOR MORALS (MORAL INTEGRITY)

## **Centrality**

- MR/CE1 HEART IS THE CORE OR ESSENCE
- MR/CE2 HEART IS THE SUSTAINER OF LIFE OF AN ENTITY
- MY/CE1 HEART FOR CENTER
- MY/CE2 HEART FOR CORE

## **Heart As Object**

- MR/OB1 HEART IS AN AUTONOMOUS ENTITY (WITH ITS OWN MIND)
- MR/OB2 HEART IS A FRAGILE OBJECT (CAN ACHE, BREAK)
- MR/OB3 HEART IS A MANIPULABLE OBJECT/REFLECTION OF STATE<sup>15</sup>
- MR/OB4 CHANGING ATTITUDES IS CHANGING THE HEART

## **Identity**

- MR/ID1 HEART IS THE SEAT OF IDENTITY

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14 This metonymy code was applied to sentences, where the heart is contiguously associated with opinions, beliefs, and convictions and not seen as the container for these, as in the metaphor above.

15 Manipulable object refers to the heart being described or experienced as broken, torn, big, etc., which reflects the emotional state of the person.

- MR/ID2            HAVING A HEART IS HAVING PERSONALITY
- MR/ID3            HAVING A HEART IS BEING COMPASSIONATE
- MR/ID4            WINNING/GIVING ONE'S HEART IS DEVOTION<sup>16</sup>
- MY/ID1            HEART FOR PERSON
- MY/ID2            HEART FOR TRUE SELF
- MY/ID3            HEART FOR CHARACTER

## 6.6 Statistics and Visualization

The frequencies of each thematic category and each metaphor/metonymy were calculated and normalized to account for the different numbers of included sentences in the English and German subcorpora, allowing for direct comparison. The visualizations were generated in Excel using the data exported from Sketch Engine. For each target body part, the distribution of thematic categories was visualized in four pie charts (two per language, one for *head/Kopf*, one for *heart/Herz*). Additionally, two bar graphs were created to compare the normalized frequencies of each code in English and German. Again, these codes refer to the conceptual metaphors and metonymies that underly the figurative expressions in my data set. Many of these codes (e.g., HEAD FOR REASON, HEAD IS A RATIONAL AGENT) are formulated rather broadly to ensure cross-linguistic comparability. Some codes may only occur in one language or predominantly one language, as they are more complex or tied to specific idiomatic expressions (e.g., OVERTHINKING FOR IMPACT TO HEAD in German). For the head, I identified 35 metaphors and 17 metonymies that were relevant and adequate in both languages. For the heart, I included 34 metaphors and 26 metonymies.<sup>17</sup>

In summary, these statistical overviews provided a basis for interpreting cross-linguistic similarities and differences in metaphorical and metonymic usage of these lemmas.

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<sup>16</sup> In this code, winning and giving one's heart to someone were summarized into one metaphor for practical reasons and because both result in devotion.

<sup>17</sup> The code HEAD IS THE SITE OF DECISION-MAKING was initially generated during the preliminary phase, in which each sentence was reviewed, and relevant expressions or phrases were noted for later (frequency) analysis. However, in the coding process, no sentence in the dataset was ultimately assigned this code. The code still remained in the list of codes on the assumption that relevant expressions might occur, but its absence in the final dataset is, in itself, an interesting finding.

## 7. Findings

### 7.1 First Observations

As a starting point, Table 1 below summarizes the average frequencies of metaphor and metonymy codes per sentence.

Table 1: Distribution of metaphors and metonymies

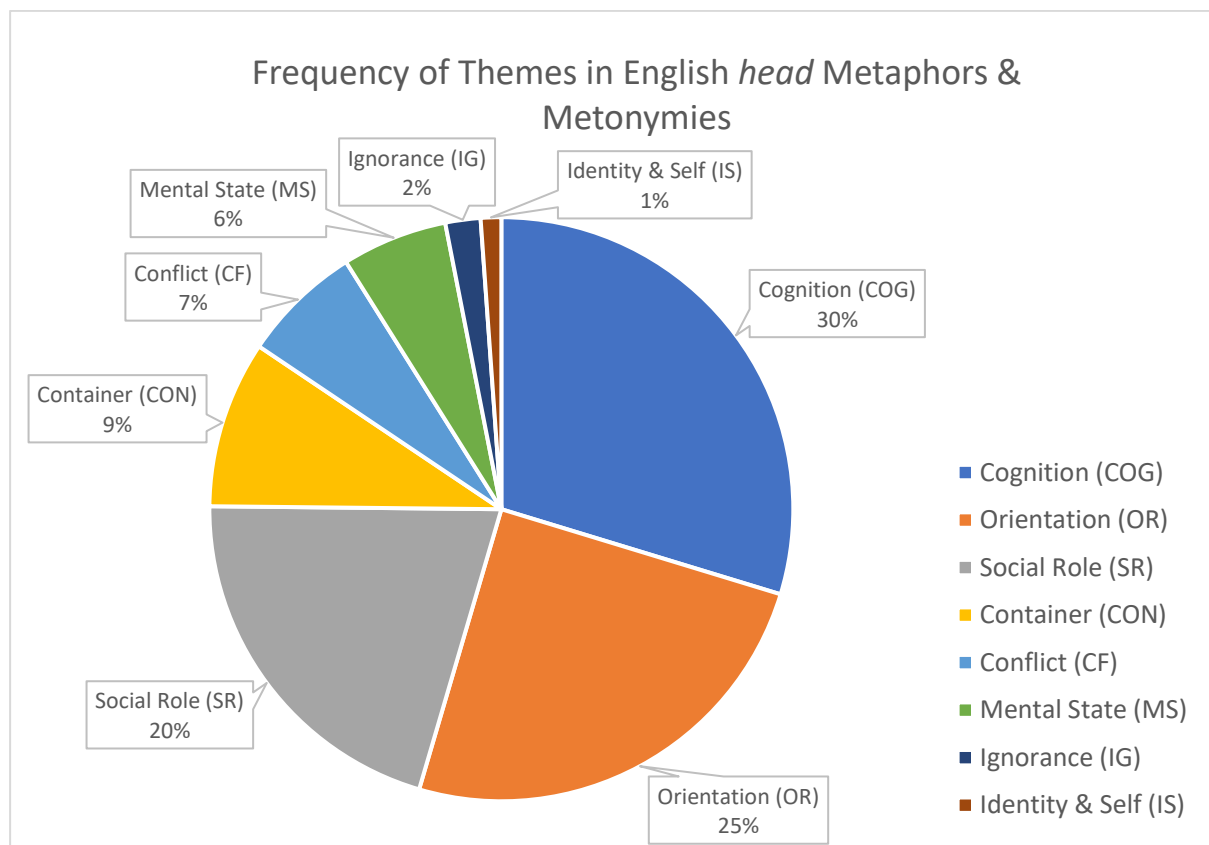
| Body Part | Sentences | Average metaphor codes per sentence | Average metonymy codes per sentence | Average metaphor % | Average metonymy % |
|-----------|-----------|-------------------------------------|-------------------------------------|--------------------|--------------------|
| Head      | 179       | ~2.1                                | ~1.4                                | ~61%               | ~39%               |
| Kopf      | 235       | ~2.1                                | ~1                                  | ~68%               | ~32%               |
| Heart     | 299       | ~1.8                                | ~1.2                                | ~59%               | ~41%               |
| Herz      | 361       | ~2.2                                | ~1.5                                | ~59%               | ~41%               |

The columns metaphor/metonymy codes per sentence indicate the number of metaphors and metonymies I assigned to each sentence. Across the two datasets, the frequencies show that metaphors occur more frequently than metonymies. German shows slightly higher metaphor density for *Kopf*, while *head* English shows higher metonymy density. It is worth noting here that this analysis draws on theoretical insights into the relationship between conceptual metaphors and metonymies as discussed by Radden (2000) and Barcelona (2003). I understand that there is a continuum and fuzzy boundaries between them and that metonymies can act as motivators for metaphors and even more so for complex metaphors. Thus, in the detailed analysis of all sentences in each sample, I specifically looked for metonymic, that is, contiguous, relations that might form a baseline for the respective metaphors to emerge. This is not always the case; yet, it might add to the explanation of why these frequencies between the languages are so strikingly similar. Moreover, during coding, I allowed for 0-3 metaphors and 0-2 metonymies per sentence for practical reasons, as I observed that this is almost always more than sufficient.

### 7.2 *Head/Kopf* Findings

The following section offers a comparative analysis of metaphorical and metonymic conceptualizations of the body part terms *head* and *Kopf*. Drawing on 179 sentences from the English corpus and 235 sentences from the German corpus, I will point out consistencies and

differences regarding the frequency and distribution of themes and individual metaphors/metonymies, and some of the most frequent expressions. These results are illustrated by the pie and bar charts I generated in Excel.



*Figure 1: Frequency of conceptual themes in the English dataset for head, from largest to smallest percentage*



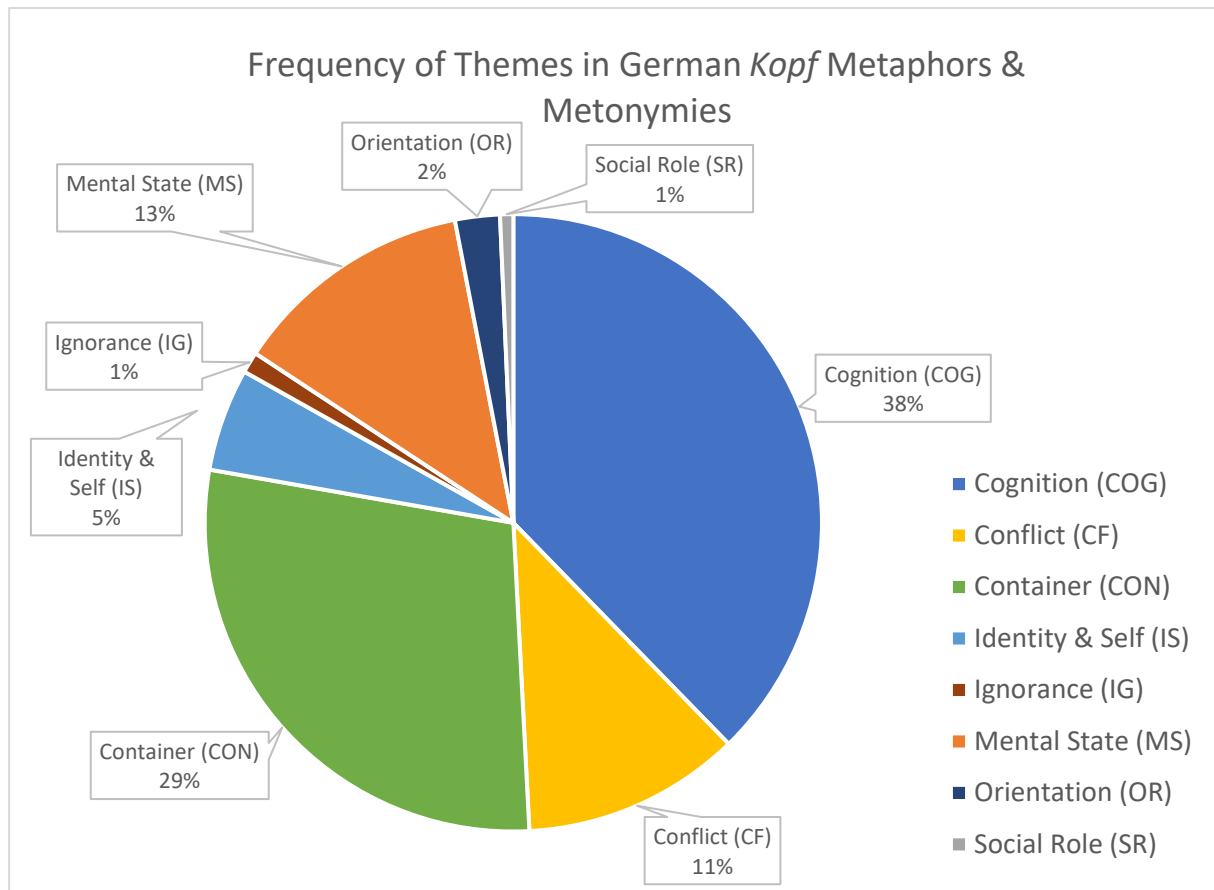


Figure 2: Frequency of conceptual themes in the German dataset for *Kopf*, from largest to smallest percentage

The pie charts for *head* and *Kopf* show that both languages share a strong association of *head/Kopf* with cognition. This suggests a shared primary embodied conceptual metaphor: HEAD IS THE THINKING SPACE. Seemingly, this is the conceptual mapping underlying numerous other metaphors within this theme and beyond, even cross-linguistically. In the English dataset, 30% of all the codes fell under the theme cognition, while in the German dataset, this was slightly higher at 38%. Beyond cognition, there are several notable differences: English emphasizes the head as a point of orientation (25%) and social role (20%), while German assigns much greater importance to container metaphors (29%), particularly mental and emotional containment and mental state (13%). These figures seem to suggest that while both languages predominantly conceptualize the head as the embodied seat of thought, the secondary associations and mappings diverge culturally and linguistically, even on the broad level of conceptual themes, albeit not drastically.

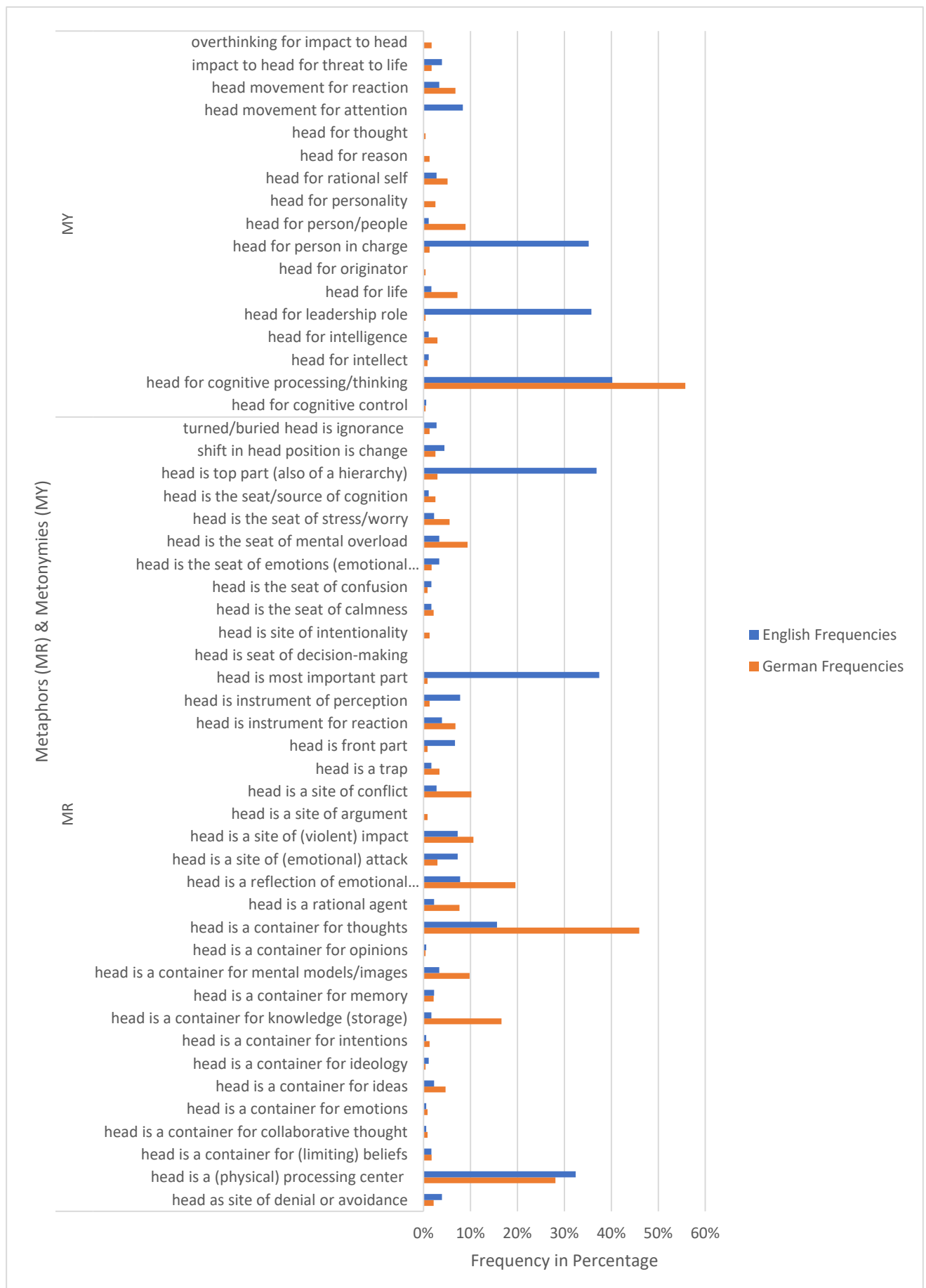


Figure 3: head/Kopf metaphors and metonymies and their respective frequencies

A more detailed analysis of the metaphors and metonymies in each theme reveals interesting similarities as well as some striking differences, as shown in the metaphors and metonymies bar graph above. The most significant divergence, reflecting the distribution of themes, is that English makes extensive use of *head* in hierarchical and social role metaphors. Expressions such as *head of department* reflect metaphorical mappings like HEAD IS LEADER or HEAD IS TOP, which were virtually absent in the German data ( $\leq 3\%$ ). German, by contrast, more consistently applies the container metaphor, especially for thoughts (46%), knowledge (17%), and mental models (10%). This observation is reinforced by the most frequent expressions in the German sample:

- *etwas (nicht) im Kopf haben*: to (not) know/remember something, lit. to (not) have something in the head
- *etwas findet im Kopf statt*: something happens mentally, lit. something takes place in the head
- *den Kopf frei machen*: to clear one's mind, lit. to make the head free

While English uses these metaphors, it does so at significantly lower frequencies. German also more frequently conceptualizes *head* as the locus of stress, emotional overload, and confusion, with metaphorical expressions for mental burden appearing more prominently:

- *den Kopf zerbrechen*: to think hard about something, lit. to break the head
- *sich an den Kopf fassen*: to be shocked or exasperated, lit. to grab one's head

Conversely, English tends to personify the head more actively, often as an agent of perception or decision-making (e.g., *turning the head*, *get one's head around something*), a feature less evident in German.

Despite these differences, similarities can be found on both a very basic conceptual level (container metaphors also occur in English, and *head* as a reflection of a mental state appears in English metaphorical expressions as well), as well as in more complex and specific metaphorical mappings. For example, ignorance or denial is metaphorically expressed through spatial metaphors such as *head in the sand* and *Kopf in den Sand stecken* (to stick the head in the sand). Interestingly, several low-frequency metaphorical codes occur in both languages. For example, HEAD AS A TRAP, SEAT OF CALMNESS, and INSTRUMENT FOR REACTION are each present with low frequency (1–3%) in both datasets. These metaphors, though less dominant, suggest that both English and German draw from the same underlying embodied experiences. The

difference is not in whether these conceptual metaphors exist, but in how frequently they are used and lexicalized in everyday language. This ties in with the problem of lexicalization and idiomaticity. Many of the most frequent expressions in both languages have become lexicalized to the point that their figurative origins are not consciously recognized, meaning they are semantically opaque to varying degrees. For instance, English phrases like *head of the company* or *off the top of my head*, and German expressions such as *etwas im Kopf haben* or *etwas aus dem Kopf bekommen* (to get something out of the head/mind) are widely used but rarely interpreted as metaphors in everyday speech or text. This lexicalization process is significant in understanding the interplay between universality and cultural specificity. Frequent expressions like those I found in my data are often treated as default expressions for concepts such as leadership, mental states, or cognitive processes. This indicates that they have become deeply entrenched within the conceptual and linguistic systems of their respective linguistic and cultural communities. They are part of a foundational cultural understanding of *head* and *Kopf*. This fact also suggests why factual or medical knowledge of these body parts has little influence on their metaphorical realization or expression. Precisely because these metaphorical networks are so foundational to our understanding of abstract concepts, speakers often do not consciously recognize the embodied origin of everyday expressions. This supports Lakoff & Johnson's (2003) claim that metaphor is not only a poetic device but an invisible foundational structure of thought and language.

The results presented above are based solely on the lemmas *head* and *Kopf*. There are, however, other lexemes that may reflect metaphorical mappings based on similar cognitive domains, particularly those related to the frequent themes *cognition*, *social role*, and *orientation* in my data. The English term *mind* holds connotations of abstract thought and mental and emotional processes. Expressions that come to mind quickly include *state of mind*, *change of mind*, or *open mind*, which encode cognitive and emotional states, attitudes, and mental flexibility, and would fall under the cognition and mental state themes I came up with. Arguably, these expressions emphasize the more introspective and disembodied aspects of cognition, while *head* frequently grounds cognition in a more embodied, spatial schema, as seen in the orientational theme. Moreover, I assume that *keep in mind*, *in the back of the mind*, *clear the mind* are highly conventionalized and frequent in everyday English but can also be found across different registers. Again, they are often interpreted as literal language (in contrast to figurative) due to their lexicalization, even though they reflect underlying metaphorical structures of the conceptualization of *mind*. They reflect the MIND IS A CONTAINER metaphor, which is less prominent with *head*. Metaphors with *mind* seem to place the focus more toward

internal cognitive processes, beliefs, and attitudes in a less primary, embodied manner than those with *head* do.

The German term *Haupt* (archaic for *Kopf*, in the literal sense) still reflects its historical connection to the notion of *head* but is rarely recognized as metaphorical by speakers. Nowadays, it is mainly used in compound forms to denote hierarchy, social role, centrality, and importance, as in *Hauptsitz* (headquarters), *Hauptverantwortlicher* (primary responsible person), *Hauptsache* (main thing). In comparison to *Kopf*, it is thus often used in organizational, structural, and priority-based metaphors in German. *Haupt*, I assume, functions more within instructional and hierarchical contexts in a more disembodied way and is thus more specialized.

Including these alternative terms (*mind* & *Haupt*) in a broader corpus-based analysis would likely increase the frequency of themes such as cognition, social role, and orientation within their respective languages and reveal additional nuances in how these body parts are framed metaphorically. One might expect a rise in metaphors that reflect abstract cognitive aspects and mental states in English, through the inclusion of *mind* and an increase in leadership, centrality, and organizational structure in German, as seen in *Haupt*. Thus, the two languages could potentially exhibit more overlap in terms of themes, while the specific metaphorical expressions would differ lexically. Such an analysis could improve the understanding of metaphorical mappings of the conceptual domains cognition and hierarchy. Ultimately, these observations and speculations support the central claim of Conceptual Metaphor Theory, which is that metaphorical mappings are deeply rooted in universal embodied experience. At the same time, their linguistic realizations are shaped by lexical conventions and preferences in a backdrop of culturally shared knowledge models.

### **7.3 Heart/Herz Findings**

This section provides an analysis of metaphorical and metonymic patterns associated with the lemmas *heart* and *Herz*. A total of 299 English and 361 German sentences of the initial 500 were analyzed for thematic distributions, code-specific frequencies, and often-occurring (idiomatic) expressions. The aim was to understand how *heart* and *Herz* are conceptualized and employed in each language to structure and express abstract target domains, particularly those related to emotion. As in the previous section, the accompanying pie and bar charts will illustrate these results.

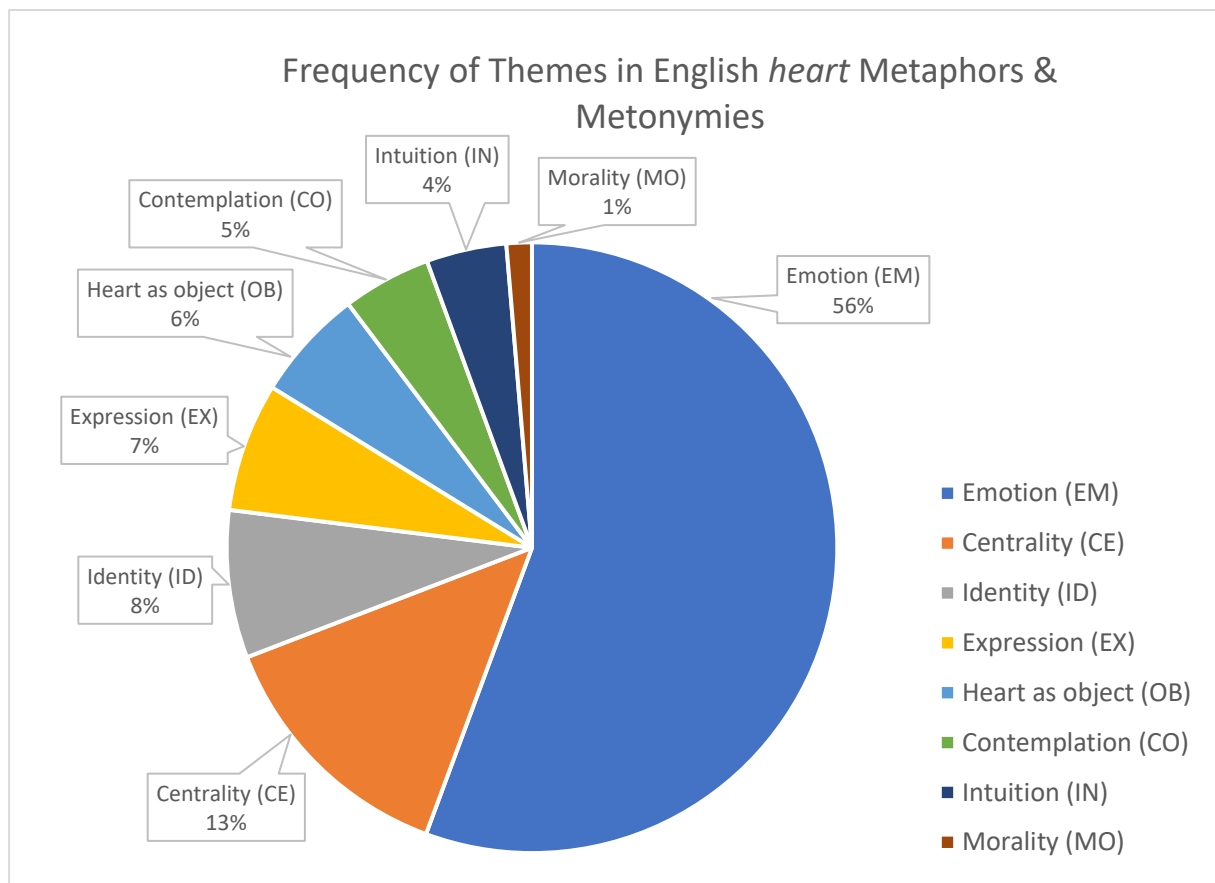


Figure 4: Frequency of conceptual themes in the English dataset for heart, from largest to smallest percentage

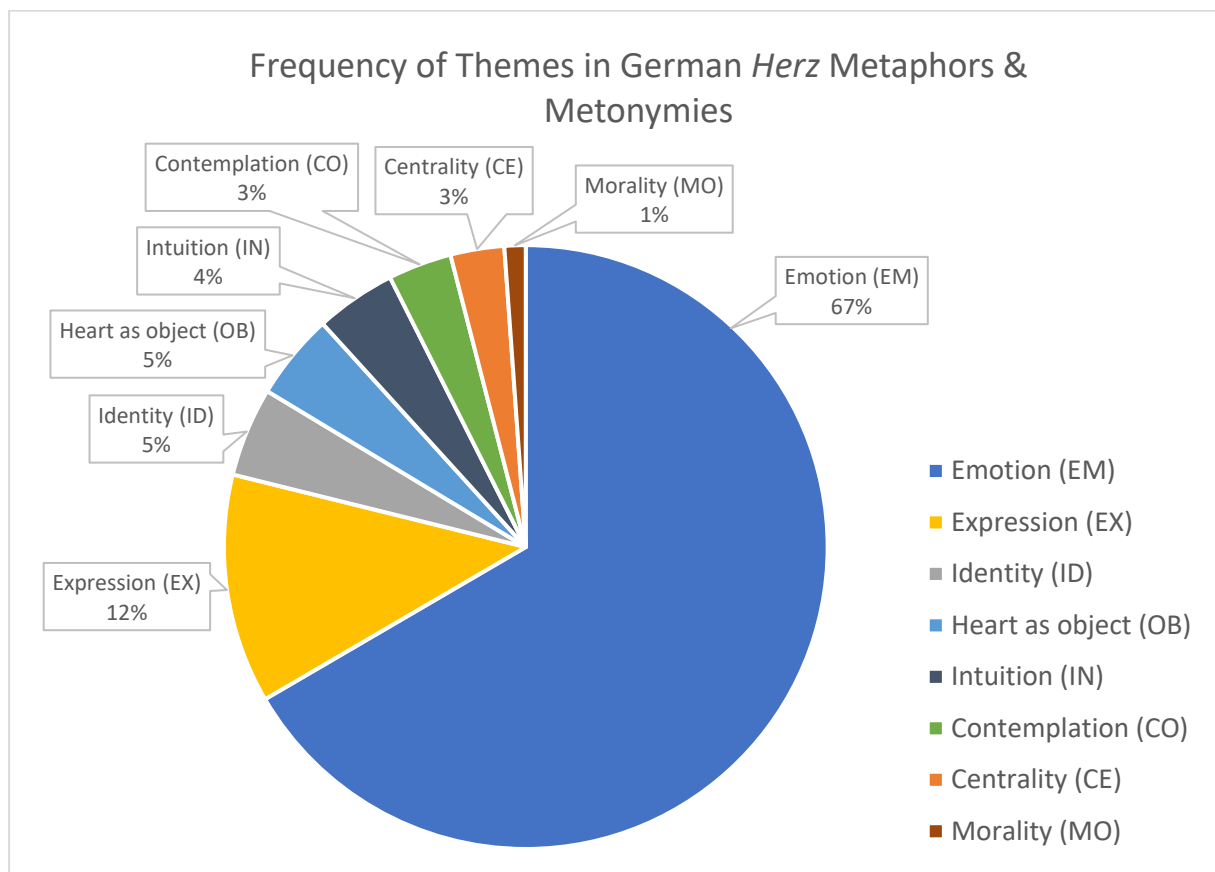


Figure 5: Frequency of conceptual themes in the German dataset for Herz, from largest to smallest percentage

Among the metaphors that employ the heart as the source domain, the most frequent target domain is emotion. Hence, across both corpora, *heart* and *Herz* reflect the prominence of the embodied metaphor THE HEART IS THE SEAT OF EMOTION in English and German. This base-level, primary metaphor is slightly better reflected in the German data, where 67% of all codes relate to emotion compared to 56% in English. Yet, this demonstrates the central role of the heart in the cultural understanding of emotion in both languages and cultural contexts.

Beyond this shared core, a closer analysis of the frequency of codes (specific metonymies and metaphors) reveals both significant divergences and similarities in how the heart space is conceptualized metaphorically. The German data shows a particularly strong presence of emotional engagement, proximity, and authenticity metaphors and metonymies. The high frequency of expressions such as *(etwas) ans Herz legen* (strongly recommend smth.; lit. to lay something on the heart), *am Herz liegen* (something is dear to sb; lit. something lies on the heart) or *von Herzen* (from the heart) illustrate this tendency. The English data shows secondary emphasis on centrality (13%), identity (8%), and expression (7%), reflecting the usage of the metaphorical *heart* in moral, spatial, and identity domains, as seen in the expressions *at the heart of something*, *in the heart (of a place)*, or *to do smth from the heart*. The centrality metonymies and metaphors HEART FOR CORE, HEART FOR CENTER, HEART IS THE CORE OR ESSENCE are thus significantly higher in English, reflecting a spatial conceptualization of *heart* as the most central or essential part of a place or abstract structure. German, by contrast, prioritizes expression (12%), while centrality remains at 3%. The themes of German *Herz* object, intuition, contemplation, and morality occur at more minor but similar frequencies. This seemingly suggests a more focused conceptualization of *Herz* in emotion and expression domains, while *heart* shows a slightly broader thematic spread.



Figure 6: heart/Herz metaphors and metonymies and their respective frequencies



This bar chart illustrates that the metonymy HEART FOR EMOTIONAL ENGAGEMENT occurs significantly more frequently in the German data (43%) compared to English, reflecting my initial observation of *Herz* metaphors and metonymies in German as described above. The usage of *Herz* metaphors and metonymies seems to denote authentic or intense emotional involvement. Yet, this code incorporates many nuances of emotional sincerity, depth, and personal investment, and was often applied in cases where categorical boundaries were fuzzy during coding, which naturally increases its frequency. Another reason for its frequency might be the high degree of lexicalization of many high-frequency expressions such as *von (ganzem) Herzen* (wholeheartedly, lit. from (whole) heart), *ans Herz legen* (strongly recommend smth., lit. to lay smth. on the heart) or *am Herz liegen* (something is dear to sb; lit. something lies on the heart). It can be challenging to determine whether the writer employs them purely as an idiom or intentionally expresses their emotional engagement – a fascinating aspect of metaphorical analysis that I cannot elaborate on in depth in this thesis. The metaphors PROXIMITY TO HEART IS EMOTIONAL SIGNIFICANCE and HEART IS THE SEAT OF (EMOTIONAL) SINCERITY also show higher presence in the German data, illustrated by *von Herzen* (sincerely lit. from heart), *ans Herz wachsen* (to grow fond of sb., lit. to grow onto sb's heart), *Hand aufs Herz* (truthfully, lit. hand on heart), *ins Herz schließen* (to take someone to heart, lit. to close someone into the heart), *zu Herzen nehmen* (to take something to heart), *aus tiefstem Herzen* (from the bottom of one's heart, lit. from deepest heart), all highly idiomatic constructions. Interestingly, HEART AS THE SEAT OF EMOTIONAL PROCESSING is somewhat more prevalent in English with 12% compared to 4% in German, which might suggest a conceptualization of *heart* as a more active and dynamic space of abstract emotional processes than with the German *Herz*.

Apart from the strong centrality and emotional involvement themes, English shows a broader distribution of lower-frequency nuances of *heart* in emotion mappings, including codes such as HEART FOR AFFECTION, HEART FOR EMOTIONAL SELF, HEART FOR FEELINGS or HEART FOR COURAGE. German, on the other hand, shows more distinct peaks in HEART FOR EMOTIONAL ENGAGEMENT, HEART IS THE SEAT OF (EMOTIONAL) SINCERITY, PROXIMITY TO HEART IS EMOTIONAL SIGNIFICANCE, and EMOTIONAL EXPERIENCE IS PHYSICAL EXPERIENCE. Again, this might be related to the high degree of lexicalization of German *Herz*'s high-frequency expressions.

An important aspect of the *heart* findings is the prominence of the metaphor EMOTIONAL EXPERIENCE IS PHYSICAL EXPERIENCE in both English (21%) and German (33%), which illustrates how emotional states are conceptualized through direct bodily experiences of the

heart. Expressions such as *schweren Herzens* (with a heavy heart), *Herz beschleunigen* (to speed up the heartbeat, lit. to accelerate the heart), *Herz schlägt höher* (heart beats faster/skips a beat, lit. beats higher) or *heart aches*, *tender heart*, or *to strike the heart* metaphorically map physical experiences like heaviness, pressure, pain, and changes in heartbeat onto more abstract emotional states. In the German dataset, this metaphor shows a slightly stronger presence in German. This reflects the linguistic and cultural understanding of *Herz* as the primary affective space, where emotional experiences are metaphorically transferred and expressed. Yet, the metaphors HEART FOR AFFECTIVE EXPERIENCE and EMOTION IS A CHANGING IMPACT TO THE HEART appear at similar frequencies in the English and German data. Generally, these mappings also align with embodiment theories and an embodied reading of Conceptual Metaphor Theory, demonstrating how abstract affective states are conceptualized through concrete, embodied, and interoceptive experiences, which will be explored further in the discussion.

Finally, another notable aspect in my analysis of *heart* and *Herz* is the lack of obvious competing lexical items in both languages that would fragment the conceptual domain of the heart. In contrast to some other body parts, whose (various) functions can be distributed across several terms, the heart stands out as the most dominant lexical realization of the affective domain. As a result, *heart* and *Herz* are the sole and central terms for the metaphorical heart space, which enables consistent metaphorical mappings across both languages in my analysis, where minor culture-specific or conceptual differences can then emerge more clearly than in the case of *head* and *Kopf*.

## 7.4 Illustration and Summary of Findings

This section presents an overview of the main findings from my analysis of the conceptualizations of the head and the heart in English and German. As a summary, it integrates both the broader thematic analysis and the more detailed code-specific analysis, supported by representative examples from the data. Only the major themes (>10%) and prominent individual metonymies and metaphors are summarized here, as the minor ones do not differ substantially between the two languages or contribute significantly to the conceptualization of the head and the heart. A concise comparison of head and heart themes and metaphorical meanings in both languages will conclude this section.

The analysis of *head* and *Kopf* revealed that cognition is the most dominant theme in both languages. Specifically, the metonymy mapping thinking onto the head (head for cognitive processing/thinking) occurs in 40% of all cognition-marked sentences in the English dataset and in 56% in the German one. This is a very productive mapping as it often provides the basis for more complex metaphors or further metaphorical entailments (see examples below). This pattern reflects the complex nature of metaphorical meaning, where multiple conceptual elements may co-occur and co-create the mappings of a single metaphorical expression. Accordingly, the metonymy HEAD FOR COGNITIVE PROCESSING/THINKING often co-occurs as a baseline for other metaphors that associate the head with aspects of cognition, such as perception and imagination, processing experiences and emotions or planning. This is well illustrated by the following examples from the data:

*Personally, I can't really think it all through in my head, so once I feel pregnant enough with the idea, I'll write it up as 4-5k short story/essay.*

Source: project no. 169, scriptshadow.net, #33344862442

In this case, other metaphors building on the metonymic basis include HEAD IS A (PHYSICAL) PROCESSING CENTER, HEAD IS A CONTAINER FOR THOUGHTS and HEAD IS THE SEAT OF MENTAL OVERLOAD.

*Die einen sagen ist nicht normal und die anderen sagen, alles gut mach dir kein Kopf.*

Translation: Some say it's not normal, and others say it's fine, don't make yourself a head.

Natural English phrase: *don't worry about it*

Source: project no. 1, motor-talk.de, #11421728655

Here, the metonymy supports the following metaphorical extensions: HEAD IS THE SEAT OF STRESS/WORRY, HEAD IS A CONTAINER FOR THOUGHTS and HEAD IS A REFLECTION OF EMOTIONAL STATE/COGNITIVE DISTURBANCE.

These metaphors, based on the foundational metonymy described above, demonstrate the close, contiguous relationship of *head* with internal thought processes. Beyond this critical metonymy, metaphors mapping the head as a (physical) processing center are also very frequent in the cognition theme. At similar cross-linguistic frequencies, the physical processing metaphor is well illustrated by the following two examples:

*I come here, as I've done this time, to try to get some kind of order into my head.*

Source: project no. 52, swans.com, #4098517304

*Mir spukt im Kopf auch noch ein anderes Projekt herum, mit dem schneller meine Gedanken ungeschminkt rauspusten kann, als ich es mit meinem normalen Blog könnte [...].*

Translation: Another project is also haunting around in my head, with which I can faster blow out my thoughts out unvarnished than I could with my regular blog [...]

Natural English phrase: *I've also got another project on my mind*

Source: project no. 132, blogger.de, #6035411525

In this second example, the physical processing center metaphor is readily apparent, but other metaphorical mappings (including HEAD IS A CONTAINER FOR IDEAS and HEAD IS A REFLECTION OF EMOTIONAL STATE/COGNITIVE DISTURBANCE) are part of this figurative expression as well.

In the German data, 46% of all codes attributed fall under the metaphor HEAD IS A CONTAINER FOR THOUGHTS, making the container theme the second largest. A typical example of this metaphor is:

*Im Kopf ist sie noch mit den Gedanken: hoffentlich haben wir nichts vergessen, beschäftigt.*

Translation: In her head, she is still occupied with the thoughts: hopefully we haven't forgotten anything.

Source: 26, motor-talk.de, #19375974582

In the English sample, the container schema is not as productive, but clear examples can also be found:

*If he ever had an original idea in his head it would die of loneliness.*

Source: project no. 14, horsesass.org, #17468025896

Both of these conceptualizations (processing center & container) build on the understanding of the head as a locus of thought. The distribution of these codes in terms of frequency percentages shows strong cross-linguistic parallels, supporting the view that metaphors about cognition are grounded in the embodied experience of having a head that contains a brain. Yet, this embodied knowledge is hard to differentiate from culturally (and medically) acquired knowledge of the function of our head and brain. This topic will be touched upon in the discussion.

The *Orientation* and *Social Role* themes are particularly prominent in the English data, where *head* is mapped onto spatial and hierarchical domains and extended toward social role metaphors:

HEAD IS TOP PART (OF A HIERARCHY) (37%):

*Mr Behnsen is head of the firm.*

Source: project no. 5, dotcw.com, #3541004623

HEAD IS MOST IMPORTANT PART (37%):

*Their brethren of Rome, embracing the common cause of military license, demanded the head of the reformer.*

Source: project no. 42, moellerhaus.com, #27098974425

This HEAD AS MOST IMPORTANT PART metaphor most often co-occurs with HEAD IS TOP PART (OF A HIERARCHY), as in the first example above. However, as in the second example, it can also stand for the head as the most important part of a person, the part that makes a human a person. Similarly, the theme *social role* is a very productive part of the English dataset, as exemplified by:

HEAD FOR PERSON IN CHARGE (35%):

*But Boss Tweed, the head of the political machine that was the city's Tammany Hall, disagreed.*

Source: project no. 44, mentalfloss.com, #30246331479

HEAD FOR LEADERSHIP ROLE (36%):

*Now, Thomas Lentz, the current head of the Freer and Sackler, rebuts Beach.*

Source: project no. 35, artsjournal.com, #28687524510

*Conflict* emerges as a salient theme in German, with metaphors that map the head as a site of confrontation and impact.

HEAD IS A SITE OF CONFLICT (10%):

*Ich empfinde es als eine Unverschämtheit mir diese ganzen Lügen auf den Kopf zu werfen.*

Translation: I find it an impertinence to throw all these lies onto my head.

Natural English phrase: *to have all these lies thrown at me*

Source: project no. 30, blogspot.com, #13864118969

HEAD IS A SITE OF (VIOLENT) IMPACT (11%):

*Richtiger wird Sie davon nicht, außer in den Köpfen derjenigen die sich dieses Mantra selber ständig in die **Köpfe** hämmern.*

Translation: It doesn't make it any more correct, except in the minds of those who constantly hammer this mantra into their own heads.

Source: project no. 57, motor-talk.de, #16789333345

Both of these metaphors reflect embodied experiences of mental strain and psychological aggression. The head is viewed as a target that can be hit or hammered, standing in for the intense pressure, confrontation, or cognitive overload the speaker or writer experiences. In this way, abstract social conflict or emotional strain is grounded in the sensorimotor experience of being physically attacked.

Extending this embodied perspective, the theme mental state highlights how the head mirrors emotional states or cognitive turmoil. This is predominantly seen in the metaphor HEAD IS A REFLECTION OF EMOTIONAL STATE/COGNITIVE DISTURBANCE, which is particularly present in the German dataset.

*Auch vieles, wo man nur noch mit dem Kopf schütteln kann.*

Translation: Also many things where one can only still shake one's head.

Source: project no. 140, motor-talk.de, #6523866537

*Ich hatte mir auch vor einem Jahr so richtig einen Kopf gemacht wegen des Verdecks usw..*

Translation: A year ago, I had really made myself a head about the convertible top.

Natural English phrase: *I was really worried about...*

Source: project no. 9, motor-talk.de, #15403796948

These sentences illustrate the embodied grounding of these metaphors, where the head serves as a bodily reflection of an adverse reaction to something or an anxiety.

In contrast to *head* and *Kopf*, which are closely associated with cognition, *heart* and *Herz* are primarily linked to emotion across both languages. Within the theme emotion, several metonymic mappings appear that associate the heart with emotional state, engagement, and affective experience:

HEART FOR EMOTIONAL STATE OF PERSON (16% English & 16% German)

*Even while laughing a heart can ache.*

Source: project no. 18, daveblackonline.com, #49364349920

*Das Herz eines jeden Oldtimer Fans würde hier rasen vor Glück.*

Translation: The heart of every vintage car fan would race with joy here.

Source: project no. 78, motor-talk.de, #5877068632

Both examples illustrate the heart as the metonymic seat of the emotional state. The English example emphasizes that beneath an outwardly happy mask, the heart experiences inner pain, understanding it as the true reflection of emotional states. Similarly, in the German example, the heart is the site of intense joy, with the physical reaction (the racing of the heartbeat) reflecting the positive affective state.

HEART FOR EMOTIONAL ENGAGEMENT (20% English & 43% German)

*But I do know what I have read has touched my heart.*

Source: project no. 30, executedtoday.com, #44180538700

*Ich wünsche mir vom Herzen, dass mein Mann auf mich zukommt.*  
Translation: I wish from the heart that my husband would approach me.  
Natural English phrase: *I wholeheartedly wish* or *I sincerely wish*  
Source: project no. 15, persoenlichkeits-blog.de, #8034785004

Here, the heart represents a person's deep emotional involvement in something. The English example maps the heart as the source of empathetic engagement, where external circumstances evoke an internal emotional response like a physical force would. The German example frames the heart as the source of sincere wishes, highlighting the speaker's authentic emotional investment.

HEART FOR AFFECTIVE EXPERIENCE (14% English & 17% German)

*It absolutely breaks my heart listening to her scream.*  
Source: project no. 26, joedelivery.com, #27962297464

*Wahrscheinlich werden wir uns nach 15 Jahren nun schweren Herzens trennen müssen.*  
Translation: We will probably have to part ways after 15 years with a heavy heart.  
Source: project no. 29, motor-talk.de, #16650866265

These two instances of the affective experience metonymy describe the image of the heart as an embodied reflection of a person's emotional state. In both examples, emotional distress is experienced and expressed as physical impact on or a trait of the heart, showing that affective experience is tied to a felt, bodily sense of the heart. Similarly, both the English and the German samples include metaphors in which emotional experience is represented as physical change or movement. In particular, the metaphor EMOTIONAL EXPERIENCE IS PHYSICAL EXPERIENCE (21% English & 33% German) illustrates these underlying mappings:

*My heart kinda sank.*  
Source: project no. 92, dcraintmaker.com, #30376803508

*Da is mir mal kurz das Herz in die Hose gerutscht.*  
Source: project no. 37, motor-talk.de, #3117350280  
Translation: There, my heart briefly slipped down into my pants.  
Natural English phrase: *my heart sank* or *my heart skipped a beat*

These sentences offer some insight into how physiological responses are used to conceptualize complex and rather abstract affective states, making them more tangible. As Kraska-Szlenk (2014: 54) reiterates, there is "there is a metonymic connection between experiencing an emotion and physically felt bodily sensation or some other bodily effect, whether medically proven or popularly believed (e.g., heartbeat, blood pressure, liver impairment), which makes inner organs willingly conceptualize as loci of emotions." Building on this, the German data

additionally shows frequent expressions in which emotional significance is conceptualized through proximity to the heart, rather than physiological change:

PROXIMITY TO HEART IS EMOTIONAL SIGNIFICANCE (German 28%)

*Die Idee kann man sich aber durchaus zu Herzen nehmen.*

*Translation: One can definitely take this idea to heart.*

Source: project no. 19, jaxenter.de, #6006014080

*Diese liegt uns besonders am Herzen, weil sie die Lebendigkeit der Community abbildet.*

*Translation: This lies especially on our hearts, because it reflects the liveliness of the community.*

*Natural English phrase: this is especially close to our hearts*

Source: project no. 70, motor-talk.de, #5979010581

In the German data (but not as much in the English sample), the theme expression includes metaphors that conceptualize the heart as the seat of sincerity and emotional authenticity:

HEART IS THE SEAT OF (EMOTIONAL) SINCERITY (German 30%):

*Ich gönne ihm mein gepflegtes Auto von ganzem Herzen (ehrlich!)*

*Translation: I grant him my well-kept car from my whole heart (honestly!).*

*Natural English sentence: I give him my well-kept car with all my heart (honestly!)*

Source: project no. 71, motor-talk.de, #10622732555

Metaphors like this reflect a culturally shared understanding in German, where highly lexicalized figurative expressions of the heart emphasize emotional sincerity, compared to more neutral and direct (non-metaphorical) expressions.

Turning to English expressions now, orientational and importance themes occur significantly more often in the English data with *head*, which is also the case with *heart*. Metaphors that conceptualize the heart as the core or essence of something are particularly frequent within the English centrality theme:

HEART IS THE CORE OR ESSENCE (English 21%):

*This is where the heart of the matter is.*

Source: project no. 2, theboar.org, #11027369676



This example illustrates how English speakers utilize the heart to highlight the central or essential part of a situation, entity, or place, rather than emotional sincerity, as seen so prominently in the German sample.

In summary, these findings reveal a distinct contrast between cognition and emotion across English and German but also reflect overlaps in how these body-part metaphors and metonymies are used. While both *head* and *Kopf* are primarily associated with thought and mental processes, they differ subtly in their emphasis on different aspects of cognition. *Heart* and *Herz* are mainly related to emotional states, engagement, personal significance, and authenticity (albeit with a stronger presence in German), while English foregrounds centrality and essence mappings. Despite these notable differences, many major and minor metaphors and metonymies show significant cross-linguistic similarities, which can be attributed not only to the close cultural and linguistic relationship between English and German but also to the embodied grounding of these conceptualizations.

## **8. Discussion**

The analysis in the previous section has shown how expressions involving the head and the heart can provide insights into how everyday language from blog entries reflects and reinforces embodied conceptual structures. This section discusses the findings of this study in light of the theoretical frameworks introduced in the first part of the thesis, drawing together assumptions and ideas from embodiment theory, Conceptual Metaphor Theory, and cultural models. This discussion is structured into five parts: a discussion of embodiment in body-part metaphors; cross-linguistic patterns and similarities between English and German; universal tendencies and cultural-linguistic differences; the cultural models underlying *head* and *heart* conceptualizations; and concluding remarks on universality and cultural specificity.

### **8.1 Embodiment and Body-Part Metaphors**

One of the central assumptions at the outset of this study was that metaphorical expressions involving body parts (particularly head/Kopf and heart/Heart) are a valuable site for examining how the mechanisms of embodied cognition can become visible in language. The empirical analysis I conducted has indeed confirmed this hypothesis: The metonymies and metaphors identified in the analysis are clearly rooted in bodily experience and serve as linguistic reflections of more general cognitive processes: the conceptualization of abstract domains. This

is especially evident in examples with codes such as EMOTIONAL EXPERIENCE IS PHYSICAL EXPERIENCE or the HEAD IS A REFLECTION OF EMOTIONAL STATE/COGNITIVE DISTURBANCE. Moreover, this confirmed hypothesis is consistent with the broader claim of cognitive linguistics that abstract concepts are (often) understood through metaphorical mappings based on bodily experiences. Yu (2020: 11-12) argues:

“The human body, along with bodily experiences, is a salient source domain for conceptual mappings onto the more abstract target domains such as human cognition, emotion, disposition, and so on. Body-part terms found in metaphoric usages in language constitute linguistic manifestations of underlying conceptual metaphors. That is, linguistic embodiment is a mere reflection of embodied cognition”.

This view is supported by the high frequency of metonymies and metaphors in the data that directly relate to physical experience in some form. For example, conceptualizations of the head as a container, the locus of thinking, and a site of cognitive processing draw directly on the embodied experience of the head with the brain, which is involved in sensory perception and planning as well as other cognitive functions. Similarly, many heart metaphors rely on the embodied experience of emotions being accompanied by physical sensations, such as an elevated heartbeat, heaviness in the chest, or general physiological excitement. This metonymic basis explains why the heart, rather than another organ, is so frequently conceptualized as the locus of emotional states. Therefore, I argue that embodied experiences serve as the basis for various metaphorical mappings observed in both English and German expressions.

There are numerous cases of metaphorical expressions in the data that illustrate the interaction between metaphor and metonymy, where bodily experience serves as the source for a primary metonymic mapping. For instance, orientational metaphors such as HEAD IS TOP PART or HEART IS CENTRAL PART are based on spatial perception and draw on metonymic relations between physical position and abstract importance. These mappings use spatial orientation to conceptualize social hierarchy and centrality. Overall, these orientational mappings are particularly frequent in the English data, demonstrating how orientational metonymies lay the groundwork for metaphorical elaboration. This type of mapping is generally less frequent in German. Yet, in the case of German *Herz*, the heart's physical centrality and importance in the body provide the metonymic basis for several metaphorical extensions. Precisely because the heart takes on a central and vital position in the body, it is often figuratively conceptualized as central to one's inner emotional life. This position allows a conceptualization of the heart as the

source of (emotional) sincerity and authenticity in expression. These mappings form the second most prominent theme, expression, after emotion in the German sample.

Most importantly, the analysis has shown that these embodied metaphorical expressions are not isolated features or conscious (poetic) choices of blog writers but occur frequently and follow regular patterns of usage across both languages. Expressions such as *off the top of my head*, *etwas nicht im Kopf haben*, *a breaking heart*, or *von Herzen* illustrate well that body-part metaphors are deeply entrenched in everyday language use. As seen in my data, they form part of the conceptual structures through which writers make sense of their bodies in the world and their capacity for complex mental and emotional experience.

## 8.2 Cross-Linguistic Patterns and Similarities

Despite notable differences in linguistic and cultural context (including different blog types, as described in the methodology section), the analysis revealed substantial similarities in how English and German conceptualize the head and heart. Many of the major metonymies and metaphors are shared across the two languages, including HEAD FOR THINKING, HEAD AS CONTAINER or PROCESSING CENTER, HEART FOR EMOTION or EMOTIONAL ENGAGEMENT, and HEART AS AFFECTIVE CENTER. As shown in the chapter above, even minor metaphors and metonymies show striking parallels in terms of frequency in English and German. These cross-linguistic similarities suggest that there are strong underlying commonalities in how bodily experience is mapped onto abstract domains such as cognition and emotion. This finding aligns well with the claim made by Kraska-Szlenk (2014: 53) in her chapter on body-part terms in the domain of emotion, which is part of her & Brenzinger's edited volume *The Body in Language*:

“Cross-linguistically prevailing patterns seem to be particularly widespread in the following domains: the domain of emotions including certain address terms, the domain of knowledge and reasoning, and the domain of social interactions and values. All these domains are metonymically related to the human body although they may also involve metaphor as a cognitive mechanism”.

Kraska-Szlenk bases this claim on the observations and findings she and her colleagues gathered in their studies on various body parts across many languages of the world (e.g., Kraska-Szlenk 2005; Sharifian et al. 2008; Maalej & Yu 2011; Siahaan 2011). In my small-scale study of two closely related languages, the cross-linguistic similarities are particularly evident in metaphors involving the head and cognition. In both English and German, the head is conceptualized as a site of mental activity, a container for thoughts, and a seat of rationality, while emotional experiences are likewise frequently conceptualized through heart metaphors.

Nonetheless, some interesting differences between English and German emerge. For example, expressions involving the heart and sincerity (*von ganzem Herzen*) are more frequent and more lexicalized in German than in English. Additionally, German shows a higher frequency of conflict-related metaphors for the head, suggesting cultural and linguistic preferences in how mental strain and social conflict are conceptualized. In the English data, there is a prevalence of orientational mappings, including hierarchical and centrality aspects of the head and the heart respectively, accounting for the frequency of expressions such as *head of* (a department, for example) or *heart of* (place). These variations suggest that while embodied experience provides a shared foundation, language-specific patterns differ in ways that may be influenced by cultural context and linguistic preferences. Identifying the specific causes of such divergence, however, lies beyond the scope of this thesis.

### 8.3 Universality and Cultural Specificity

The interaction between universal embodiment and cultural specificity has become a major theme in contemporary metaphor research. Earlier formulations of Conceptual Metaphor Theory emphasized the universal nature of metaphor, grounded in the shared bodily experiences common to all humans. As Lakoff and Johnson (2003, 1999) argue, the structure of human reasoning and conceptualization is deeply rooted in embodied experience. However, later research has shown that cultural models and discourse practices also play a crucial role in shaping metaphorical systems (Kövecses 2005, for example). Yu (2020: 14) notes this shift in emphasis:

“According to the earlier views of CMT (Lakoff, 1993; Lakoff and Johnson, 1980), conceptual metaphors are not arbitrary, but are grounded in their experiential basis, especially bodily experience. Since humans across various cultures share many basic embodied experiences, it follows that many conceptual metaphors, which are supposed to be grounded in those common embodied experiences, are universally shared. While earlier CMT views never ignored the role of culture in the emergence of conceptual metaphors, it is fair to say that more emphasis was placed on universal rather than culture-specific aspects of metaphors.”

In this context, cultural models offer a complementary and more dynamic perspective. As Niemeier (2008: 350) explains:

“A cultural model, as a representation of a community’s wisdom in a given domain, can be seen as both the synthesis and simultaneously as the source of many clusters of metaphors and metonymies and also of many single individual metaphors and metonymies. In this respect, it differs fundamentally from Lakoff’s notion of conceptual metaphor which sees one global conceptual domain mapped onto some other domain. A

cultural model, in contrast, combines a variety of single and often contradictory metonymic and metaphorical views, crystallizing in a more dominant conceptual frame”.

The result of integrating the theory of cultural models as described above into an explanation of conceptual metaphor structures is a more nuanced approach to embodied conceptual metaphors. I will now return to Kövecses’ (2005: 4) set of claims in bold below (introduced in Chapter 4.1) regarding the tension between embodiment and cultural influence and relate them to the findings that emerged from my analysis.

**1. Universal experiences do not necessarily lead to universal metaphors.**

While cognitive processes and emotions are shared across cultures, the metaphorical expressions that conceptualize them can differ. Reviewing the findings, both English and German associate the head with thinking, but the container metaphor is significantly more frequent in the German data. In contrast, English more often features orientational metaphors to conceptualize the head, which emphasize spatial or hierarchical structuring. This may suggest that in English, the mind (rather than the head) is more readily conceptualized as a container for thoughts instead. Thus, the universal bodily experience of having a brain inside the head is metaphorically realized in distinct ways across the two languages.

**2. Bodily experiences may be selectively used in the creation of metaphors.**

Although physical proximity to the chest or heart is an almost universal bodily experience associated with emotional intensity or personal significance, this experience is selectively metaphorized. In the German data, it is frequently realized in expressions such as *zu Herzen nehmen* or *liegt am Herzen*, which frame emotional meaning in terms of spatial closeness to the heart. In the English data, however, this mapping is rare, suggesting that this specific metaphor, based on the embodied experience of proximity, is more likely to be chosen by the German linguistic community.

**3. Bodily experience may be overridden by both culture and cognitive processes.**

Although emotional reactions naturally involve the brain (as in thought processes) as well as the heart and other physiological responses, the heart dominates metaphorical expressions for emotional states in both languages. This is especially true in culturally entrenched expressions

such as *mir ist das Herz in die Hose gerutscht* in German or *my heart sank* in English, where the physiological realities are overridden by conventional mental imagery.

#### **4. Complex metaphors may be potentially or partially universal.**

The metaphor HEAD AS A (PHYSICAL) PROCESSING CENTER appears in both languages and builds on primary metonymic mappings such as HEAD FOR THINKING. To take up previously discussed examples from the data, *to get some kind of order into my head* and *ein anderes Projekt spukt im Kopf herum* both rely on the complex metaphor of the head as a disorganized space requiring management, yet the imagery and idioms differ. The shared primary structure but divergent expression illustrates how complex metaphors can be partially universal yet realized differently across languages.

#### **5. Metaphors are not necessarily based on bodily experience – many are based on cultural considerations and cognitive processes of various kinds.**

English expressions like *head of the department* or *head of state* metaphorically position the head as a symbol of leadership and institutional authority. While these metaphors draw on an underlying orientational metonymy that associates the top of the body with control, they rely more fundamentally on cultural models of hierarchy. This illustrates how certain metonymies and metaphors can emerge from culturally shaped structures, rather than directly from bodily experience.

This study thus supports a more balanced view that acknowledges both shared embodiment and cultural variability. While many of the central metaphors and metonymies are present in both languages, the frequency, lexicalization, and nuance of certain expressions show culture-specific tendencies. These differences suggest that culturally shaped models can influence how embodied experiences are conceptualized and metaphorized. As Kövecses (2005: 200) writes, “the conceptualized experiential basis (often appearing as conceptual metonymies) and the emerging conceptual metaphor contribute to the basic schematic structure of the cultural model, and the simultaneously present cultural context fleshes out the details of the schema.” This explanation concisely captures the dynamic interaction between universal embodied experience and culturally specific interpretation based on distinct cultural models.

## 8.4 Cultural Models of Head and Heart

The literature survey and findings of this study can offer insights into the cultural models (i.e., shared understandings) associated with *head/Kopf* and *heart/Herz*. The metaphorical patterns I observed in my data do not merely reflect or reinforce linguistic conventions but may also point to deeper cultural assumptions about the relationship between cognition and emotion, reason and feeling in Western thought. From a broader anthropological perspective, these patterns relate to the notions of cerebrocentrism and cardiocentrism. As Sharifian, Dirven, Yu, and Niemeier (2008) suggest, different cultures assign cognitive and emotional functions and processes to various body parts. Western conceptualizations tend to be cerebrocentric, highlighting the head and brain as the center of rationality, whereas other cultures may exhibit cardiocentric or other interpretations.

In line with this, the dominant cultural model of the head in my English and German data aligns closely with rationality, mental control, hierarchy, and planning, which are features that are present in both languages. In the English data, however, the head is also consistently associated with leadership, orientational, and social structure, as in expressions like *head of* (the company). Niemeier (2008: 358), in her study of the head-heart dichotomy in English, notes that "the basic meaning of head, similar to that of heart, is the reference to the body part, but frequently head expressions are used to refer to the head's presumed content, that is, the brain, the mind, human ratio, intelligence." This reflects the cultural model in which the head is seen as the locus of intellect and decision-making. Conceptualizations like these also reflect philosophical and medical traditions in the West, particularly the post-Cartesian dualism that locates reason in the mind and emotions in the heart. This understanding, as Niemeier (2008: 366) suggests, is deeply entrenched: "This division of labour is, as discussed before, due to the change in philosophical thought that gained the upper hand with Descartes' mathematically based rationalism and his belief in the dualism of mind and body [...]". "The previously prevalent ethnomedical belief in the four humours [...] was replaced by the idea that the head/brain/mind complex is where rational thinking takes place and that the heart is the place where our emotions are located" (Niemeier 2008: 366). This anthropological background describes how both languages distribute concepts like cognition and emotion across the two central body parts.

In contrast to the head, the cultural model of the heart emphasizes emotional sincerity, affective engagement, and moral integrity. German shows a particularly strong preference for *Herz* metaphors related to emotional authenticity (*von ganzem Herzen, am Herz liegen, Hand*

*aufs Herz*). In this cultural model, the heart is not merely the seat of emotion but also a symbol for emotional integrity and authenticity. This preference appears to be more pronounced in the German cultural context, as indicated by the high number of corresponding metaphors in the data.

Finally, it is worth noting that cultural models are not static or universally shared within a speech community. Yet, they are sufficiently conventionalized to likely influence language use in systematic and observable ways, even in my small-scale corpus.

## 8.5 Universal Tendencies and Cultural-Linguistic Variation

In summary, the conceptual metaphors and metonymies identified in this study show both universal patterns and culture-specific or language-specific nuances. The bodily experiences that underlie expressions such as *in my head*, *zu Herzen nehmen* or *my heart is heavy* are widely shared, suggesting a strong embodied basis for metaphor, often built on primary metonymic mappings. Nonetheless, the specific ways these metaphors and metonymies are lexicalized, their frequency of use, and their semantic nuances vary across the two languages and reflect and reinforce distinct cultural models. Complementary to cultural influence, another significant factor contributing to variation is the degree of specificity: While primary metaphors and metonymies tend to vary less, more complex metaphors can exhibit striking cross-linguistic divergence.

In addition, the lexicalization of highly frequent metaphorical or idiomatic expressions can also influence how a corresponding conceptual metaphor is structured within a given culture or linguistic community. As Yu (2020: 14) emphasizes, linguistic metaphors not only reflect pre-existing conceptual metaphors; they also play an active role in shaping them. Frequently repeated metaphorical expressions can influence how speakers conceptualize abstract domains. If linguistic usage can feed back into conceptualization, it can become challenging to reconstruct the direction of emergence and change. Consequently, tracing the origin of everyday metaphorical expressions (whether they emerged from embodied experience, cultural convention, or linguistic structure) is a big and complex task. In this thesis, I did not attempt this task but instead aimed to identify cross-linguistic similarities and differences that may reflect cultural and linguistic preferences, also shaped by embodiment.

Taken together, the findings of this study support a view of embodied conceptual metaphor as both embodied and culturally situated. As expected, no major differences were found in the foundational conceptualization of these two body parts, since both English and



German share a similar cultural history and broadly similar cultural models. Both of these contexts reflect a cerebrocentric view of the mind and are shaped by the same philosophical head/heart dichotomy. Nevertheless, the data also reveal subtle cross-linguistic differences that point to distinct cultural and linguistic preferences.

## 9. Conclusion

Despite its limited scope, this study may contribute to the broader understanding of the relationship between embodiment, metaphor, conceptual structure, and cultural variation. The theoretical framework laid out by Lakoff & Johnson, Kövecses, and Kraska-Szlenk, among others, helped interpret these findings and explain how universal embodiment and cultural variation interact in the expression of metaphor and metonymy. Future research could expand on this comparative approach by including more diverse languages and cultures or employing broader (or larger) corpora, since these findings are based on my small-scale corpus-based analysis of two closely related Germanic languages. My study of *head/Kopf* and *heart/Herz* metaphors and metonymies in blog entries shows that while universal embodiment provides the foundation for metonymic conceptualization, cultural specificity plays a significant role in shaping how metaphorical expressions are used and understood in everyday language. The interplay between bodily experience and cultural context appears to underlie both the similarities and the differences observed across English and German. As such, this study may add to ongoing debates in cognitive linguistics on universality versus cultural variation in metaphorical thought, highlighting the value of body part metaphors as a rich site for investigating this interplay.

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