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Metaphors and their Making:

Bodily, conventionally and contextually motivated
metaphors in inter- and intra-generational
conversations

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MA in Language and Linguistics, Cognitive Semiotics

SPVR01 Language and Linguistics: Degree Project – Master's (Two Years) Thesis, 30 credits

August 2019

Abstract

This thesis examines and compares spontaneous metaphor usage in conversations within and between generations. It investigates to what extent they can be seen as motivated by bodily, conventional and situated factors with the help of the Motivation and Sedimentation Model (MSM), which operates with these three levels of meaning. The model combines and integrates earlier accounts of metaphor motivation, conventionalization and emergence, as shown through a theoretical discussion.

The thesis proposes and employs a detailed MSM-based procedure for linguistic metaphor identification in transcripts from moderated dyadic conversations between participants, thus contributing to MSM specifically with both methodology and new data. The identification procedure was based on the Metaphor Identification Procedure (MIP), elaborated through elements from the Discourse Dynamics Approach (DDA). It was further aided by MSM's definition of metaphor based on the notions of iconicity and semantic tension, the latter understood in the present context as polysemy (as opposed to semantic vagueness/generality).

Rather surprisingly, the analysis showed no major quantitative differences in metaphor motivation between inter- and intragenerational conversations among strangers. Conventionality, and in particular strongly sedimented norms, appeared to be the foremost driving factor in metaphor production, both within and between generations, while the younger generation had a slight preference for weakly sedimented metaphors.

In sum, the thesis contributes to metaphor studies theoretically and methodologically and calls for better inter-study comparability through higher methodological transparency and conceptual clarity.

Keywords: cognitive semiotics, iconicity, Motivation and Sedimentation Model, conventionality, embodiment, metaphor identification, signs, polysemy

Acknowledgements

First and foremost, I want to thank my supervisor Jordan Zlatev for his many ideas, energetic support and wise advice. Further, I want to thank Johan Blomberg for proofreading and friendly guidance, as well as Simon Devylder and Georgios Stampoulidis for many fruitful discussions and idea exchanges. I would also like to thank all the participants in the study for their openness and engagement while conversing with complete strangers.

Last, but not least, I want to thank the MA program for Language and Linguistics at Lund University for the cinema tickets, with which I could compensate the participants for taking up their time.

Without these helping hands, this work would never have seen the light of day.

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Chapter 1. Introduction

In recent years there has been much talk of polarization and the “filter bubbles” people live in; the lack of understanding between different socio-cultural groups has been portrayed as resulting largely from social media and the algorithms they work through (e.g., Nguyen et al., 2014). Although some factors behind these social divides are indeed new, many of the causes and symptoms of group entrenchment and failing communication doubtlessly existed before the rise of social media. We do live in the same world, and, if we live in the same geopolitical area, we mostly experience the same phenomena. However, we think about the phenomena differently depending on our backgrounds, and thereby, we talk about them differently. In spite of the commonly appraised principle of “calling a spade a spade”, a spade may also be called *the gardener’s best friend*, *that heap of rust in the shed* or *a perfect way to break your back*; a man in his sixties could become *a good egg*, *a geezer* or *an old fart*. As these examples suggest, we often use figurative language to express our apprehensions of the functions and natures of things, and as much as our ideas and attitudes differ, so do our figurative expressions for the phenomena.

Within different groups, we tend to center around certain attitudes about certain things, and thus also have reasons to speak figuratively about them in certain ways. Simultaneously, we distance ourselves from those who do not share our views and thus do not favor or even understand these figurative expressions. Such (potential) differences in figurative expressions between social groups, and, more specifically, differences in metaphoric expressions used within and between different generations, are the topic of this thesis.

In the last decades, metaphors have gained much academic attention, shifting from being treated as a relatively rare and purely rhetorical figure of speech to being regarded as a common tool for communication and an indication of important, underlying cognitive processes and structures. This new focus has been prevalent in cognitive linguistics and related schools of thought (e.g. Lakoff and Johnson, 1980; Bowdle and Gentner, 2005; Cameron and Deignan, 2006; Zinken,

2007). In this upturn of attention, several different accounts of why people use the metaphors they do have been proposed.

In the accumulated work towards a cohesive account of the observed patterns of metaphor use, some general influences and constraints can be discerned. Among these, three prominent factors have recurred throughout the discussions: (a) *pan-human bodily experience* (e.g. Lakoff and Johnson, 1980; Johnson, 1987, 2010; Gibbs et al. 2004), (b) *socio-normative conventions* (e.g., Zinken, 2007; Zlatev et al., 2012; Jacobsson, 2015), and (c) the *immediate context* of the discussion (e.g. Cameron and Deignan, 2006; Mueller, 2008). Although the theories promoting the respective factors have often been held to be rivaling, the different perspectives may rather be seen as complementary as they focus on different levels of meaning-making (as suggested by, e.g., Paju 2016). One recent advance towards such a view, here employed as framework, is the *Motivation and Sedimentation Model* (henceforth MSM; Zlatev, 2018; Stampoulidis, Bolognesi and Zlatev, 2019; Devylder and Zlatev, in press), described in Chapter 2.

A goal of this thesis is to provide further detail to this integrative view of metaphor through reviewing some previous accounts of metaphor, interpreted as focusing on the MSM notions of the *Embodied* (pan-human), *Sedimented* (conventional), and *Situated* (contextual) levels in an analysis of transcriptions from on-line conversations between members of the same versus different generations within the speaker-community of Swedish. Employing the MSM view of the three levels as juxtaposed in the examination of metaphors, the question arises: Can a difference in the use of metaphors, such as understood through the three levels of MSM, be observed in conversations within and between generations? This can be formulated as the following research questions:

- How do the three levels of MSM interrelate in governing the use of metaphors?
- How can the three different levels of MSM be discerned in actual metaphor usage?
- Are there considerable differences between metaphor use within and across generations?

The structure of the thesis is as follows. Chapter 2 presents the theoretical background, where the three levels are presented and then described in detail through an MSM-based review of previous research. From this background I then present a set of general hypotheses on differences in metaphor use between and within generations. Chapter 3 presents the methods employed to discern these differences. Chapter 4 presents the results of the study and Chapter 5 gives an interpretive discussion of these results. Finally, Chapter 6 concludes by returning to the research questions stated above.

Chapter 2. Theoretical Background

2.1 Introduction

This chapter presents the theoretical framework of the present thesis. In Section 2.2, cognitive semiotics and its background in phenomenology are introduced, setting the stage for the Motivation and Sedimentation Model (MSM) presented in Section 2.3. In Section 2.4 some theoretical frameworks devoted to the respective levels are reviewed from an MSM perspective, providing further detail and conceptual tools to the employed framework. In Section 2.5, the concept of *generations* as distinct socio-cultural groups is introduced and fit into the present framework, which is then summarized in section 2.6 and employed in the formulation of a set of general hypotheses. These hypotheses are then further operationalized in Chapter 3.

2.2 Cognitive Semiotics

2.2.1 General considerations

Metaphor is a complex and controversial phenomenon. To get a grasp of the debates on its nature, motivations and limitations, the integrating, holistic field of cognitive semiotics is well apt, being a transdisciplinary approach to the study of meaning, integrating concepts and methods from semiotics, linguistics and cognitive science (Sonesson, 2012; Zlatev, 2015; Konderak, 2018). As hallmarks of cognitive semiotics, Zlatev (2012, 2015) highlights the following features: (a) integration of conceptual issues and empirical research; (b) methodological triangulation; (c) influence of phenomenology; (d) the ambition of true transdisciplinarity; and (e) meaning dynamism.

Feature (a) is often illustrated with the *conceptual-empirical loop*, a version of which is presented in Figure 1, adapted to the questions asked in the present thesis.

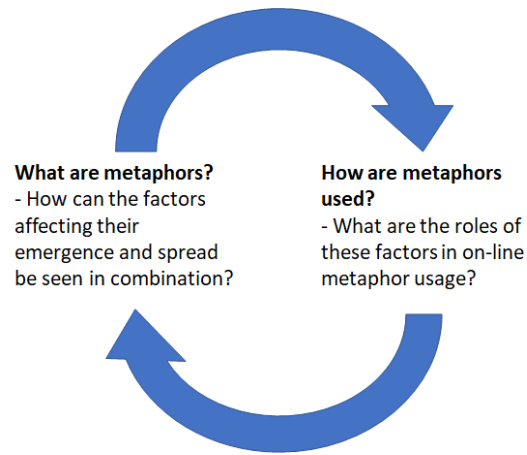


Figure 1: The conceptual-empirical loop applied to the topic of the present thesis, adapted from Zlatev (2015, p. 1058)

In this thesis, the loop is applied as follows: First, the concept *metaphor* is defined by way of MSM (see Section 2.3) and key insights from the three general perspectives on metaphor introduced in Section 2.4. Thereafter, the empirical investigation discerns how metaphors as so defined become manifest in different social circumstances. Finally, metaphor as a communicative phenomenon is re-evaluated through answering the research questions, closing the loop in the final chapter.

As this thesis aims to review the respective roles of several theoretical cognitive-linguistic models (see Ch. 1), aided by an empirical investigation rooted in focus-group methods (Krueger et al., 1998), ultimately addressing the socio-linguistic issue of inter-group communication difficulties, feature (d) is reflected as well. Feature (e) emphasizes that meaning, whether privately interpreted, interpersonally agreed or normatively sedimented, is primarily a dynamic phenomenon, i.e. meaning *making*. This view is central to MSM and pervades the present work. The final two central features of cognitive semiotics, (b) methodological triangulation and (c) phenomenology, deserve some more attention, and are therefore presented in more detail below.

2.2.2 Methodological triangulation

Cognitive semiotics aims for a methodology based on the combination of the 1st, 2nd and 3rd person perspective methods. Typically, these correspond to (1) the researcher's intuitions, (2)

empathetic understanding of another subject, e.g., a participant in a study, and (3) detached (quantitative) observations, respectively. Given that “all knowledge is relative to a subject” (Zlatev, 2015, p. 1060), any scientific study will depart from the researcher’s intuition. However, as the researcher is always embedded in a socially co-constructed *lifeworld* (see Section 2.2.3), knowledge is always sharable, i.e. intersubjective. Knowledge acquired and structured through such 1st person intuitive and 2nd person intersubjective views may then be further refined through 3rd person methods, e.g., experimental and quantitative studies.

The three methodological perspectives, as applied in the present thesis, are illustrated in Table 1. Although sometimes called “subjective”, “intersubjective” and “objective”, these labels are potentially misleading. In natural science, the first term has negative connotations and the last one positive connotations, while for cognitive semiotics this is rather reversed, as objectivity is possible only through (inter)subjectivity. As stated by Zahavi (2010, p. 6): “Scientific objectivity is something to strive for, but it rests on observations and experiences of individuals; it is knowledge shared by a community of experiencing subjects and presupposes a[n intersubjective] triangulation of view or perspectives”.

Table 1: The three epistemological viewpoints, such as here applied to the study of metaphor usage and motivations, adapted from Zlatev (2015, p. 1059)

Perspective	Method	Applied to
<i>First person</i> (“subjective”)	Conceptual analysis, Systematic intuitions	Identification of metaphoric expressions in transcriptions and corpora
<i>Second person</i> (“intersubjective”)	Participant observation, Empathy, Imaginative projection	Conversation moderation, identification of intra-conversational references
Third person (“objective”)	Detached observation, Experimentation, Corpus investigation	Classification and quantification of metaphoric expressions

These perspectives can be exemplified in previous research on metaphor. All “identification procedures” of metaphors are based on a combination of intuition and introspection,¹ although this is not always explicitly stated (see, *inter alia*, Lakoff and Johnson,

¹ While introspection is a process where an individual searches for and evaluates the *private* workings of her/his mind, an act of intuition is here conceptualized as directed “outward”, toward the phenomenon that is studied, which

1980; Zinken, 2007; Ruiz de Mendoza Ibáñez and Pérez Hernández, 2011). Well-known formalized methodologies for metaphor identification such as the Metaphor Identification Procedure (MIP) rely explicitly on the systematic intuitions of the researcher(s), partly assisted by lexica (Pragglejaz-Group, 2007; see Section 3.4.1). Thus, intuition-based methods pervade the identification of metaphors, and advantageously so, especially when the method is spelled out and made transparent (cf. Cameron and Maslen, 2010a; Devylder and Zlatev, in press). When analyzing the (social) context in which a metaphorical expression has emerged (e.g., Cameron and Deignan, 2006), any analysis relies on the researcher's ability to empathize with the persons studied and their interaction with the social context (Itkonen, 2008), i.e., a 2nd person perspective. Finally, any detached, quantitative analyses of occurring metaphors (e.g., Zinken, 2007) takes a 3rd person perspective.

As shown in Table 1, these three kinds of methods are employed in the current study in (1) metaphor identification, (2) conversation moderation/context analysis and (3) metaphor classification/quantification respectively, as presented in Chapter 3. Cognitive semiotics' explicit acknowledgement of intuitive and intersubjective methods is rooted in the philosophical school of phenomenology, briefly presented in the following sub-section.

2.2.3 Phenomenology

Phenomenology, the philosophical school of thought focusing on “the study of human experience and of the ways things present themselves to us in and through such experience” (Sokolowski, 2000, p. 2), was founded by Edmund Husserl in the early 20th century and has been increasingly acknowledged in the cognitive sciences over the last few decades (Gallagher and Zahavi, 2008; Gallagher and Smicking, 2010; Zlatev, 2010).

One of the most central concepts of phenomenology is that of the *lifeworld*, the world-such-as-experienced (Sokolowski, 2000). Embedded in this lifeworld our consciousness is always a

can be made intersubjectively shared and therefore is not private. Social and communicative *norms* are one such phenomenon (Itkonen, 2008; Zlatev and Blomberg, in press).

consciousness *of something* (ibid, p. 9). In other words, it is *intentional*, in this specific sense: “The being-in-itself of the world is nothing other than its intentional appearing for consciousness” (Held, 2003: 23). Further, this consciousness is always possessed by a carnal subject: It is *embodied* (e.g. Carman, 1999, p. 206).

This lifeworld is not to be viewed as a Cartesian private mental construct, detached from the “real world” (Sokolowski, 2000, pp. 54-60); on the contrary, it is “out there” to be experienced together with other subjects. We do not doubt that what we perceive is indeed the world, and that it is given to others as it is to us. As we are all embodied subjects, much of our experiences of the world are similar enough for us to successfully communicate about them. This natural, pre-theoretical apprehension of the world as experienced by human beings, rather than theoretically derived conceptions of an “objective world”, serves as backdrop for phenomenological and cognitive semiotic studies of meaning making.

Intersubjectivity, at its core, is the realization of another subject as being a carnal being constantly experiencing and reflecting upon experiences just like ourselves (Zahavi, 2001). This pre-reflective intuition provides a base for all communication. For example, if I see a person limping and showing discomfort in his movement, I may relate this to my own sensory knowledge of pain through *body-schemas*, a phenomenological concept which allows me to instinctively understand (part of) the other person’s experience through my own bodily memories of similar pains (Zlatev and Blomberg, 2016, see p. 189). Thus, this sight communicates to me directly and pre-linguistically that the person’s foot hurts, without any need for logical inference. Through such embodied intersubjectivity we may pre-linguistically agree upon the identities of, and our attitudes towards, the phenomena appearing for us (for example, aching feet) and thereby ascribe intersubjective meaning to them (Zahavi, 2001; Zlatev and Blomberg, 2016). The phenomenon thus experienced is technically called the *noema*, while the ways in which it is experienced (which may differ) is called *noesis* (Sokolowski, 2000).

Intersubjective experience of the world and all the acts of meaning making that it implies build up a personal and interpersonal history, through what is called in phenomenology *sedimentation* (e.g., Steinbock 2003). The limping person and I may agree to communicate this kind of pain

through the expression *steppy-yowie*, thus sedimenting this sign into our shared communicative norm as related to the experience. Through the sedimentation of the expression, both one's own prior experiences and signs acquired intersubjectively from other subjects are sedimented and will to some extent influence coming experiences. The sedimentation itself makes my future experience of a sore foot include the knowledge that I can get help to relieve the pain, if it is communicated in the appropriate manner. Thus, our lifeworlds are in part subjected to the *normativity* that exists in social groups and their acts of communication, and thus not only built from our own private experiences: When communicating with people in a certain group, we are normatively expected to express our accounts of our experiences in a way that has been agreed upon as viable within that group. We are thus, implicitly, also expected to, at least for the purpose of communication, construe the experience in a certain way that allows us to communicate it in that way. For example, the experience of a sore foot may through further communication become (expected to be) construed as something that can be helped by peers (see Zlatev and Blomberg 2016). For example, if a friend tells me that their foot hurts, my knowledge of our shared social norms makes me expect that they want me to help them in some way, or at least express sympathy. It is in this light that socio-cultural groups may be understood: My socio-cultural in-group is, by definition, constituted by the individuals with whom I regularly communicate and whose communicative norms and views-*qua*-construals I will (partly) share, as parts of a shared lifeworld (Zlatev and Blomberg, in press).

This approach to embodiment and normativity has been employed in accounting for non-actual motion expressions like *the road goes through the forest* and *she pierced my heart* (Zlatev and Blomberg, 2016) and motion-emotion metaphors like *my heart sank* (Zlatev, Blomberg and Magnusson, 2012; Paju 2016). According to these accounts, we may understand such expressions due to three main factors: (1) similar (bodily) experiences, e.g. a physical sensation in the chest, as well as (2) historically sedimented conventions, e.g., the heart being culturally associated with notions like feelings, hope, self-confidence, will to live etc. and the (3) the context of the conversation, i.e. my impression of the speaker's state of mind such as judged from facial expressions, previous statements, the spatiotemporal location of the conversation etc.

This perspective on meaning making has recently been developed into the *Motivation and Sedimentation Model*, described in the following section.

2.3 The Motivation and Sedimentation Model (MSM) and metaphor

MSM is a general model of meaning-making that has recently been applied to the nature of language norms (Zlatev and Blomberg, in press), linguistic relativity (Blomberg and Zlatev, accepted), as well as metaphor (Stampoulidis, Bolognesi and Zlatev, 2019; Devylder and Zlatev, in press). With respect to metaphor, it suggests an account for both universal tendencies and cultural variation in metaphor usage, acknowledging the dynamics of actual use rather than postulating static systems or mappings. Rooted in phenomenology and integral linguistics (Coseriu, 1985), MSM sees all communicative meaning as rooted in three fundamental levels: the *Embodied*, the *Sedimented* and the *Situated*. These levels are interrelated by way of two basic processes: *motivation* and *sedimentation*. The levels and processes are presented in 2.3.1. Further, MSM defines metaphors as *signs* employing *iconicity*. These are further explicated in 2.3.2.

2.3.1 Motivation, sedimentation and the three levels of meaning

Starting with motivation, its definition is based on the phenomenological concept of *Fundierung* (Husserl, 1900), explained by Merleau-Ponty (1962, p. 458) as follows:

[...] this two-way relationship that phenomenology has called *Fundierung*: the founding term, or originator [...] is primary in the sense that the originated is presented as a determinate or explicit form of the originator, [...], and yet the originator is not primary in the empiricist sense and the originated is not simply derived from it, since it is through the originated that the originator is made manifest.

For Merleau-Ponty, this is an irreducible notion that can help resolve ontological dilemmas such as the “mind-body problem”: the two are not categorically distinct, as the body is the “originator” and the mind is the “originated”, which is founded upon, but not reducible to the body. In the present thesis, this relation is considered to hold between the properties and

limitations of the bodily experiences we make and the pre-linguistic analogies we may construe between them on the one hand, and the normatively accepted ways of expressing them in a given group of speakers on the other hand, such that meaning making on the level of bodily experience “founds”, or motivates, that of our language but does not exhaust it (Zlatev, 2016, 2018). For example, the sets of metaphoric expressions normatively accepted in a group of speakers are originated by, and are manifestations of, our bodily means of perception and analogy-making. Yet, these expressions are not seen as ‘simply derived’ from or directly determined by these bodily structures and activities in MSM. Similarly, this relation also holds between the norms of communication on the one hand and single acts of communication on the other. For example, the choice of the specific utterance *I see the cat* over **cat I the see* is motivated by the lexicogrammatical rules of English. Still, no utterance can be seen as “simply derived” from these rules, as the only way these rules can become manifest and observable is through the utterances, and an utterance can deliberately violate part of the norms for specific social purposes (for example humorous effect, social distancing etc.).

Sedimentation, on the other hand, is the converse process, where specific expressions become stabilized in collective memory and norms over time, as outlined in the previous section (i.e. 2.2.3). As an example, consider the quotative *be like* as in the phrase *and I was like, that’s not fair*. From being virtually unheard of a few decades ago, this expression has been used repeatedly, spread among speakers, and is now sedimented into a norm in informal speech (especially among younger speakers of English).

As for the three levels of (communicative) meaning of MSM, the *Embodied* level encompasses non-linguistic, cognitive and experiential processes and structures such as body-schemas, bodily mimesis, emotions, categorization and analogy-making (see Devylder and Zlatev, in press). These provide the foundation for the embodied intersubjectivity outlined in the previous section. The *Sedimented* level encompasses stable, yet dynamic, linguistic norms (i.e. lexicon and grammar) and collective cultural knowledge/beliefs, an example being the norm behind the expression *my foot hurts*, and the knowledge that it (normally) prompts help from peers. These norms may encompass all communication in a speaker community, e.g. the grammatical rules of Swedish. They can also be more demographically, geographically or situationally limited, such

as different dia- or sociolects or local cultural practices. Finally, the *Situated* level of meaning making encompasses the situated ad-hoc situation of communication where meaning becomes actualized and, so to speak, comes to life in situated, actual use-in-context. All structures and activities on the Situated level are still, to some extent, motivated by the Sedimented level, as well as by the Embodied level. In turn, situated ad-hoc structures may become sedimented into a more stable sedimented norm.

On each level, a distinction is made between knowledge (structure) and usage (activity) (Fig. 2). Activities are acts of communication, which may be motivated by and become sedimented into situated or, eventually, sedimented structures. The structures are systems of bodily, normative or contextual preconditions for communication, motivating the activities. The so-illustrated “horizontal” processes of motivation and sedimentation in Fig. 2 take place in a relatively short duration of time, while the “vertical” processes are instantaneous in motivation but take historical time to be sedimented. Thus, the processes can be labelled *enchronic* and *historical*, respectively (Zlatev and Blomberg, in press).




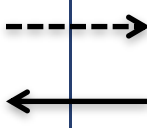
Levels	Structure	Activity
Situated 	Situated norms	 Creative use
Sedimented	Sedimented norms	 Conventional use
Embodied	Sensory knowledge Body schemas Mimetic schemas	 Bodily acting Pragmatic inference Analogy-making

Figure 2: The Motivation and Sedimentation Model (MSM). Sedimentation is represented in solid lines and motivation in dotted lines, on enchronic (horizontal) and historical (vertical) timescales (adapted from Zlatev and Blomberg in press)

As an illustration of the interrelations between activities and structures on the respective levels, consider the following reconstruction of the origin of the expression *heartbreak*. When uttered for the first time in history, it was an instance of *creative use* motivated by *structures* on the *Embodied level* (the mutually known experience of reduced vitality and possibly physical pain in the chest as caused by bereavement) through analogy making. The expression was understood and accepted as referring to that feeling by the hearers, thus being enchronically sedimented into the local *situated norm* of that conversation. Gaining further popularity, it was then used repeatedly and spread to wider social circles, thus over historical time becoming established in the *sedimented norm* of the English speaker community. Now, any use of the expression will be an instance of *conventional use* and will hardly be regarded as a striking metaphor/analogy. However, being thus known as part of the communicative norm, it may itself be part in motivating future creative, novel expressions, e.g., *heart-explosion*.

Earlier formulations of this model have been empirically applied to comparisons of “motion-emotion metaphors” across different languages, showing greater overlap between more closely related languages than non-related, as well as showing a relatively small set of overlapping metaphors in all studied languages (Zlatev et al., 2012; Jacobsson, 2015; Paju, 2016). The small, overlapping set linked to potentially universal motivations of the Embodied level, the studies showed much less overlap in expressions motivated by the Sedimented level. However, as the studies were made on a material of conventionalized metaphors, the Situated level was not investigated.

More recently, Devylder and Zlatev (in press), have applied the model to “irreversible non-actual separation” expressions regarding the self² in diaries and therapy sessions where speakers discussed their mental lives, such as that in (1).

² “Irreversible non-actual separation” expressions are expressions where an expression for irreversible separation, e.g. *break* or *split*, are used to convey an event where no actual separation takes place. As example, “*she broke my heart*” or “*my mind split in two*” communicates situations where no actual breaking or splitting takes place, as opposed to “*she broke my arm*” or “*the vessel split in two*”. Devylder and Zlatev’s study concerns expression where the separation expressed is *irreversible* (for example, “*the jar broke*”) as opposed to reversible (for example, “*the jar was opened*”). (Devylder and Zlatev, in press)

(1) *I broke into tears*

Since the distribution patterns of various expressions were not random in relation to the emotional experiences they communicated, the authors concluded that these expressions appeared to function as metaphors not only on the Sedimented level, but also on the Situated level, with a link to physical experiences on the Embodied level (like the above suggested original link between *heartbreak* and bodily sensations in the chest). However, they acknowledge that this conclusion can only be tentative without access to the Situated level, i.e. to the actual discourse and the contexts of use. To complement these earlier studies, the present thesis instead monitors the Situated level as seen in on-line language use, expanding the empirical scope of MSM to include how the Embodied level and different norms operate on and constrain metaphor usage in actual situated conversations.

2.3.2 Defining metaphors in MSM

For the sake of contributing to inter-study comparability in the relatively fragmented field of metaphors studies (see Section 2.4), a clear definition of metaphor is needed. Devylder and Zlatev (in press) and (Stampoulidis et al, 2019, p. 10) provide the following definition of metaphor:

An expression in a given semiotic system (or a combination of systems) with (a) at least two different potential interpretations, (b) standing in an iconic relationship with each other, where (c) one interpretation is more relevant in the communicative context, and (d) can be understood in part by comparison with the less relevant interpretation.

Let us unpack this definition. Metaphors are expressions in a given semiotic system (such as language, gesture or depiction), rather than hypothetical mental/neural “mappings” or processes such as “simulation” (Gibbs, 2006). In the case of linguistic metaphor, the expressions can be conceptualized as linguistic signs (further specified below). Criterion (a) may be specified as stating that the expression in question be *polysemous*. One interpretation being more contextually relevant (c) may be understood in terms of *target* and *source*, where a contextually more relevant

target is expressed with a term commonly referring to a contextually less relevant *source*. Criterion (d) thus gives that the target be understandable through the source on the basis of iconicity.³

Now, let us turn to the concepts of *sign*, *object* and *iconicity*. Based on the semiotics of Peirce as interpreted by Sonesson (2012), the sign is a process consisting of three parts: (a) *representamen* (e.g. the sound of a spoken word or the graphemes of a written word), (b) *object* (the referent, under a given construal) and an *interpretant* (the meaning such as interpreted by an addressee). As this thesis focuses on the speakers' motivations for using certain representamina for certain (semiotic) objects, the first two notions will be focussed in the present discussion.

As motivating factors for the use of a certain representamen for representing a certain object in a meaningful sign, there are three basic types of *grounds* that may hold between an object and its corresponding representamen, where one may predominate but does not exclude the others (Jakobson, 1965; Ahlner and Zlatev, 2010):

- *iconicity* (based on resemblance)
- *indexicality* (based on contiguity and/or part-whole relations)
- *symbolicity* (based on conventions).

Iconicity is the ground that is central for metaphor. It can involve resemblance in either sensory impression (e.g., the similarity in sound exploited when calling a brass band *a heard of elephants*) or in perceived structure (e.g., the similarity in structural function between an actual head and a *head of state*; both are the physically/hierarchically “highest” parts of an entity, over which they have the ultimate control).

In non-metaphorical signs, these grounds hold between object (O) and representamen (R). For example, a non-metaphorical iconic sign such as a realistic portrait exhibits iconicity between representamen (the picture surface) and object (the depicted). In the case of a metaphorical expression such as (2), the iconicity rather holds between the source object (O₁, an actual pig)

³ There are numerous different term-couples for these two roles in the literature. To avoid confusion, this thesis will only use the terms “target” and “source” for these respective roles in metaphor.

and target object (O_2 , a socially insensitive, egoistic person). As such, iconicity can be seen as a special case of *analogy* making (Itkonen, 2005), a cognitive process that belongs to the Embodied level of meaning making (see Figure 2).

(2) *He is such a pig.*

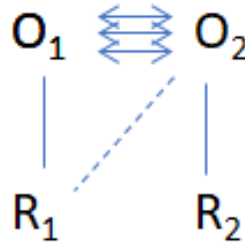


Figure 3: A schematic illustration of a metaphoric sign. O =Object, R =Representamen, 1=Source, 2=Target. Here, a certain perceived similarity (iconicity) between the objects of the source and target signs makes it possible to convey O_2 through R_1 .

Taking both O_1 (here, an actual pig) and O_2 (an insensitive, sloppy man) into account, the word *pig* is indeed polysemous, as the meaning of sentence (2) would change or even become incomprehensible if O_2 were changed for O_1 . Given the context of a conversation on a certain man, it is clear that the most relevant of the two interpretations is O_2 , and that O_2 can be understood through comparison with O_1 in line with the above definition of metaphor.

Although the ability of analogy-making necessary for perceiving iconicity is embodied (and thus universal), the objects compared may be either bodily perceivable, making the corresponding metaphorical expression bodily motivated, or socio-culturally constructed, making the metaphorical expression in part motivated by a sedimented or situated norm.⁴ As shown by earlier research (Zlatev et al., 2012; Jacobsson, 2015; Paju, 2016), this difference in motivation affects the spread and possibly the usability of the expression in different social settings.

As shown in this section, MSM is a clearly a cognitive semiotic model in its integrative spirit, both when it comes to levels of meaning, and ideas from semiotics, linguistics and cognitive science. As will be shown in the following section, it may also help integrate ideas from different

⁴ See, for example, the cultural construction of the liver as the seat of emotions prevalent in Indonesia, which motivates expressions such as *he shattered my liver* instead of *he broke my heart* (Siahaan, 2008).

current theories of metaphor, which otherwise often tend to over-emphasise either of the above meaning-levels at the expense of others.

2.4 MSM and Different Theories on Metaphor

As stated in the introduction (Chapter 1), several different approaches to metaphors have developed over the last few decades. In the following review, theories focusing on the levels of embodiment, convention and context respectively, are presented and evaluated in relation to MSM, providing further detail to the model.

2.4.1 Metaphors in experience: Focus on the Embodied level

One of most influential approaches in current metaphor studies is Conceptual Metaphor Theory (CMT), largely based on the thoughts presented by George Lakoff and Mark Johnson (1980, 1999) and further developed by several researchers within cognitive linguistics (e.g., Grady, 1997; Ruiz de Mendoza Ibáñez and Pérez Hernández, 2011). CMT changed the definition of metaphors from a figure of speech to a universal “figure of thought”, and proposed that “most of our ordinary conceptual system is metaphorical in nature” (Lakoff and Johnson, 1980, p. 4). Such conceptual metaphors, most often referred to simply as *metaphors* within CMT, are understood as mental “mappings” between mental domains, of which linguistic metaphors are merely symptoms.⁵ Conceptual metaphors are said to build on *primary metaphors* (Grady, 1997) the source domains of which are *image schemas*, defined as “recurring, dynamic pattern[s] of our perceptual interactions and motor programs” (Johnson 1987, p. xiv.). These motor programs and schemas are “simple physical concepts [perceivable by motor-sensory means] – up-down, in-out, object, substance, etc. [...]” (ibid., p. 61), derived from repeated motoric experience of, e.g., gravitation or spatial boundedness. Employed as sources in metaphors, their targets are more

⁵ Domains are (more or less) delineated mental concepts into which a subject divides the perceived world, e.g. the concept of CHAIR, the concept of JOURNEY, or the concept of LOVE. In the CMT view, they can be labelled with linguistic units by a speaker (e.g. the word *chair*, etc.), but are seen as strictly independent of language and linguistic norms.

abstract concepts. For example, the IN-OUT schema may be used in comprehending or describing non-spatial events, as in (3) where the mapping employed can be labeled A MESSAGE IS A CONTAINER.⁶

(3) *I heard the speech, but I didn't get anything out of it.*

From the perspective of MSM, the CMT view of metaphors is highly restrictive, even if some of its ideas could be incorporated through the notion of embodied intersubjectivity (see Section 2.2.3). Conceptual and primary metaphors have hitherto been empirically elusive, as it has proven difficult to delineate different domains (Croft and Cruse, 2004) and to separate properties deriving from cognitive factors from properties deriving from social and/or linguistic factors. CMT has been criticized for being imbalanced in its conceptualization of metaphors: The use of metaphoric expressions is explained as affected by mental processes, but the effects of metaphoric expressions and the linguistic normativity they are subject to on these mental processes are not accounted for to any satisfactory extent (Zlatev, 2007). Although later developments of CMT (e.g. Gibbs 2017; as reviewed by Greve, 2018) have acknowledged the role of social and cultural factors in the use and construction of metaphors, these have hardly been investigated more deeply. Consequently, the resulting mappings are still discussed as highly private concepts, albeit embodied ones. Thereby, the socio-cultural, normative nature of metaphors, and of meaning in general, is left out (Itkonen, 2003; Zlatev, 2007, 2010).

This has been further pointed out by, *inter alia*, Svanlund (2001, 2007), who examined the metaphorical use of nouns and verbs related to the Swedish words *vikt* and *tyngd*, both generally synonymous in their non-figurative use and both translating to the English *weight*. When used figuratively, these two words with source-objects supposedly belonging to the same domain were found to be used for target-objects in completely different domains, exploiting completely different qualities of the *weight* source domain. This could argue for the Swedish source domain of WEIGHT being divided into two separate sub-domains by means of the words' distinct socially sedimented characteristics, as opposed to e.g. English. However, this difference between languages fits less than well with the supposed exclusively bodily motivated, thus universal,

⁶ According to the notational system suggested and used by Lakoff and Johnson (1980), conceptual metaphors are written with small capitals in order to distinguish them from their linguistic counterparts.

domains behind conceptual metaphors. Seeing the relatively strict lexical contexts in which these metaphoric expressions occurred, Svanlund convincingly argues that the differences between the metaphorical sub-domains *vikt* and *tyngd* are in part a consequence of *lexicalization*:

The general conclusion is that the degree of figurativeness can be said to depend on both (sub)domain properties and on lexical properties specific to the lexicalized item in question. (Svanlund, 2001, p. 350)

In MSM's view, the metaphorical objects come to be sedimented as related to the respective representamina through language use, a view that make metaphors a more overtly socially determined phenomenon than that portrayed in CMT. Still, CMT's account of embodiment in metaphors may capture important aspects of the Embodied level. It is possible to understand cross-domain mappings and embodied image schemas not as *the* sources of metaphoric expressions, but as a universal ability of analogy-making and pan-human bodily motivations, respectively, where the latter operate in juxtaposition with motivations that require knowledge of the sedimented norms to be perceived (e.g. Siahaan, 2008). As some of the most strongly bodily motivated relations are pan-human, they can be expected to be widely employed in metaphoric expressions and therefore often sedimented into the norms of diverse languages (see, e.g., Jacobsson, 2015; Paju, 2016; Zlatev and Blomberg, 2016).

Having elaborated the way in which the Embodied level may motivate the use of certain metaphorical expressions, let us now turn to some accounts of how norms may motivate the situated uses of metaphors. Thereafter, we shall see how the situated uses affect the norms through sedimentation.

2.4.2 Metaphors in conventions: Focus on the Sedimented level

Zinken (2007) proposes a tight link between linguistic norms and metaphors. In particular, he provides empirical support for the claims that metaphorical expressions used within a delineated discourse have a strong tendency to be expressed by highly specific lexical items, in line with the aforementioned findings of Svanlund (2001). Zinken (2007, p. 449) argues that conventional metaphors emerge as a result of “analogical schemas”, negotiated through language use rather than derived from purely bodily image schemas.

Analogies in public discourse use stereotypical representations of everyday situations to provide evaluative perspectives on contested topics (Musolff 2006). However, the figurative meaning of such schemas is not obvious. While a speaker proposing a particular metaphor has a specific figurative meaning in mind, new metaphors are initially open to several interpretations, and can be used for opposing evaluations (Hellsten 2000). This [...] leads to a period of negotiation in which discourse participants aim to establish a ‘conceptual pact’ (Brennan and Clark, 1996) [...]

Zinken refers to such conventionalized expressions as *discourse metaphors*, “verbal expressions containing a construction that evokes an analogy negotiated in the discourse community” (Zinken 2007, p. 445). These discourse metaphors are often *form-specific*, in the sense that “[...] the particular lexical items used in discourse are associated with particular figurative usages” (Zinken, 2007, p. 446). The specific lexical item’s signifying of the specific figurative meaning comes about over time within a certain discourse as “[e]ncyclopaedic knowledge that is frequently relevant in the usage of a particular construction becomes more accessible” (ibid, p. 448). The shape of the “conceptual pact” will depend on the views on both the source and target objects held by participants of the discourse, what structures these objects are agreed to have in common, and which aspects of the shared structures are salient/important in the context of communication (Zinken, 2007, pp. 448-449).⁷ In MSM terms, discourse metaphors are metaphorical expressions that have become sedimented into the sedimented norm of a certain group of people (as participants in a certain discourse) as relatively discrete units of representamina (R₁) and corresponding metaphorical objects (O₂).

This process is taken up by Bowdle and Gentner (2005), who provide further detail on how sedimentation affects metaphor comprehension, and how the form and meaning of a metaphorical expression may become stabilized over time in a certain group of people. The authors argue that the target concept can be understood in terms of the source by virtue of an on-line process of *structure mapping* (Bowdle and Gentner, 2005, pp. 196 ff). Their framework suggests that the perceived similarity between source and target concepts employed for

⁷ This context of communication may be a nation-wide discussion on political matters, as well a single conversation over a breakfast. Both of these are of course instances of communication *situated* in certain social contexts. However, as Zinken’s (2007) paper portrays an empirical investigation through relatively de-contextualized corpus studies, unveiling linguistic *norms* within the discourse of the German Democratic Republic (DDR) the last years before the fall of the Berlin wall, as the *result* of conventionalization, it is here used to illustrate a focus on the normative Sedimented level rather than the Situated level.

metaphoric expressions is one between inter-relational structures in the respective concepts. The hearer of a metaphorical expression first compares source and target concepts and identifies common features between them. Thereafter, the interrelations between these features are compared, in search for a structure shared by both source and target concepts. Once a common structure between the two is found, whatever features and structures were not shared are excluded from the interpretation of the metaphoric expression. The resulting shared, interrelated structures, called *kernel*, gives rise to a *metaphorical category*, in which all concepts that share the kernel structure may be included. While this process holds for novel metaphors, Bowdle and Gentner propose that once a certain source term has been used with a certain target a critical amount of times, the source term comes to *conventionally* denote not only the literal (source) concept which it first denoted, but also the metaphorical category (Bowdle and Gentner, 2005). Thus, comprehension of the metaphorical expression becomes not a process of comparison, but one of a certain kind of “class-inclusion”.

Through comprehension experiments, the authors corroborated their hypothesis that conventional metaphors, which should be comprehensible in terms of the above class-inclusion, were indeed understood quicker than non-conventional metaphors, where comparison processes should be needed. This suggests that conventionalization indeed influences and facilitates metaphor comprehension. As speakers most likely intend to be swiftly understood, this may also provide cues for metaphor production.

From the viewpoint of MSM, Bowdle and Gentner (2005) show how sedimentation into a sedimented norm happens through social negotiation, and how this plays a facilitating role in communication. The kernel, such as a negotiated proto-meaning, comes to define the metaphorical category, which becomes adopted as a secondary object of the representamen (as in the case of the pejorative sense of the term *pig*, discussed in Section 2.3).

The process through which the metaphorical category comes to be *socially shared* and *accepted* in a group of speakers is a case of meaning generation through sedimentation within the community. Thus, it allows for socially construed objects to shape the kernel and in part motivate the use of the expression. Further, this account of conventionalized metaphors being more swiftly understood, in combination with Zinken’s (2007) reasoning that

conventionalization happens within certain discourses, makes it reasonable to assume conventional metaphors should be preferred over non-conventional metaphor in conversation, given that both interlocutors have sufficient knowledge of the discourse in which the metaphor was conventionalized. In MSM terms, this would be translated as that sedimented metaphors should be preferred, given that both interlocutors share the sedimented norm of which the metaphor is part. However, a direct account of how the negotiation of a metaphor actually may happen in situated communication is still needed. Some suggestions along these lines are presented by Cameron and Deignan (2006).

2.4.3 Metaphors in context: Focus on the Situated level

Cameron and Deignan (2006) provide an empirical account of the sedimentation process as it happens in situated on-line conversations. They argue, in line with Svanlund (2001) and Zinken (2007), that non-literal expressions very often appear as relatively restricted linguistic constructions with very specific meanings (Cameron and Deignan, 2006). Labelling these expressions *metaphoremes*, Cameron and Deignan seek an account of this phenomenon, insisting that in order to understand the nature of metaphors, one must understand what the speaker wants to communicate in relation to the communicative context in question.

With the help of a transcribed conversations in a classroom context, they illustrate a process of the local stabilization of an emerging metaphor: the phrase *lollipop trees* is launched by the teacher and subsequently accepted and used by the students as referring to the teacher's disapproval of trees drawn in a certain idealized manner (Cameron and Deignan, 2006, p. 677).

Further, in transcripts of a dyadic conversation and its evolving discourse, the metaphorical expression *walk away from* "show[ed] stability in linguistic form, conceptual content, and affective force, but sufficient flexibility to be open to negotiation, co-construction, and development as discourse participants shape their talk and work towards greater understanding" (Cameron and Deignan, 2006, p. 683). In subsequent corpus-searches, Cameron and Deignan found that metaphoric uses of this phrase occurred with very limited grammatical constructions, but had a much less stable conceptual content and affective force when seen in the various

discourses browsed through in the corpus analysis (ibid, 683-686). Cameron and Deignan conclude:

stability [in form and meaning] will emerge in terms of [...] *metaphoremes*, appearing as metaphorically used words, or [...] multi-word expressions, which take a limited though variable form and have highly restricted semantic and pragmatic meaning” (ibid., pp. 686-687, my emphasis).

Seeing to the shifts in pragmatic inferences depending on social context in the corpus searches, they highlight that these restricted semantic and pragmatic meanings are specific to the context in which the metaphoremes emerge, as well as the socio-cultural predispositions of the speakers in that context: “*relatively small differences of history, culture* (in all senses: folk, high, and popular) *and social values* may lead to the emergence of *different metaphoremes* [in different groups and contexts]” (ibid, p. 687, my emphasis). This importance of the situated context of communication for the emergence and use of metaphors has later led Cameron and Maslen to launch the Discourse and Dynamics Approach (DDA) to metaphor (2009, see also 2010a, 2010b; and Section 3.4).

Seeing Cameron and Deignan’s account of metaphor emergence and local conventionalization from the perspective of MSM, the expression *lollipop trees* was not motivated by a pre-existing sedimented norm, but rather by iconicity between the contextually present drawings and shared knowledge of lollipops. The expression emerged, was accepted as comprehensible by the students and became sedimented into the local situated norm of that context. Its specific target object was shaped through this local situated norm within the drawing class, where the teacher has the power to accept or disqualify certain styles of drawing. Importantly, such metaphoremes are *signs* (see Section 2.3.2): They are negotiated combinations of specific metaphorical target objects (O₂) and specific representamina (R₁), motivated in part by structures on both the Sedimented and Situated levels. The meanings of these expressions are generated through sedimentation of agreed-upon metaphoric categories into the local situated norm and may be further sedimented into a locally sedimented norm in that group of pupils, should the expression be used in subsequent drawing classes.

However, some metaphorical expressions have doubtlessly become further sedimented in larger groups than single classrooms or even schools, and are thus more widely known (for example, most expressions considered by Lakoff and Johnson, 1980, as well as those considered by Zinken, 2007). Different metaphorical expressions evidently have different “spread” and will thus be used in different ways and to different extents in conversation, depending on the speakers’ apprehension of each other’s history, culture and social values as part of the (social) context of the conversation. In MSM terms: Different norms can be more widely or more narrowly shared among speakers and can thus be described as *strongly* or *weakly* sedimented. This distinction is further treated in Section 2.6.

Having acquired a detailed view of the interrelation between the three levels of meaning-making such as applied to metaphor (further summarized in section 2.6), let us now turn to the two socio-cultural groups concerned in this study: The generations called Baby-boomers and Millennials.

2.5 Generations as socio-cultural groups

The differences between generations in attitudes, experience and cultural predisposition has long been an object of interest to researchers, both as a sociological field of study in its own right (e.g. Mannheim, 1970 [1928]; Eyerman and Turner, 1998; Corsten, 1999), and in various other fields such as work-place organizational studies (e.g. Down and Reveley, 2004; Gibson et al., 2009), education studies (e.g. Oblinger, 2004; Jones et al., 2010) as well as library and information studies (Connaway et al., 2008). As the “baby-boomer” generation is now starting to retire from the labor market, the generation often referred to as “Generation Y” or “millennials” is beginning to take their place.⁸ This has caused several researchers to direct their attention to these two generations in particular (e.g., Oblinger, 2004; Connaway et al., 2008; Gibson et al., 2009; Jones et al., 2010). The differences in technological and socio-cultural upbringing between generations

⁸ In daily speech, the terms Baby-boomer and Millennial are used somewhat vaguely, but mostly refer to the birth cohort born in the end of/the years immediately after World War Two, and the birth cohort which reached adolescence during the millennium shift, respectively. For the sake of operationalization, the two generations are here defined as individuals born 1945-1955 and 1982-1992, respectively.

have often been talked of as a “Generation Gap”, resulting in “inherent differences between generations that preclude successful communication” (Wood et al., 1971, p. 160; referring to McLuhan, 1965; Allardt, 1966; Eisenstadt, 1966; and McLuhan, 1966). Although the collective focus of the later studies on generations indeed point towards important differences between the generations’ social patterns and communicative behavior, few studies have directed their primary interest at linguistic differences between age-groups (except for differences between child, adolescent and adult language, see Gisle, 2001, p. 1). One exception is the study of Wood et al. (1971), the results of which are interesting for the present study.

Studying the communicational gap between birth cohorts roughly corresponding to baby-boomers and earlier generations, Wood et al. (1971) found significantly higher difficulties in communication between cohorts than within them. Through the fast development of technology and communication tools over the last few decades, developments which most millennials have grown up with, the difference in technological and socio-cultural upbringing between the millennials and baby-boomers can be described as large, if not larger, than that between the generations studied by Wood et al. (1971), (see, e.g., Nilsson, 2004; and Magnusson, 2010).

In line with these studies, baby-boomers and millennials are here seen as distinct social groups in the terms relevant to this study. Wood et al. (1971) even argue that difference in age very well may have an impact on communicational success/failure on par with difference in socio-economic background.

Considering the normativity of metaphoric expressions described in the previous section, we can thus expect that use of sedimented metaphors will differ between baby boomers and millennials due to their differences in history, culture and social values, in line with MSM, and the theory of Cameron and Deignan (2006).

2.6 Summary and general hypotheses

This chapter has shown that meaning making in general, and metaphors in particular, are very much both social and cognitive processes, as stated by Svanlund (2007, p. 50):

Just as we can adopt other kinds of linguistic expressions from people we speak with, we also can adopt their metaphorical conceptions and projections. This will naturally be much easier if these conceptions allude to bodily experience shared by all members of the community. Nevertheless, this is both a cognitive and a social process.

The theoretical model adopted by this thesis, MSM, distinguishes between the universal bodily experience of being a carnal being in the world (the Embodied level), normative, non-universal interpersonal history (the Sedimented level) and the situated context of communication itself (the Situated level). Given the considerations in Section 2.4, Figure 2 can be somewhat adapted as in Figure 4.

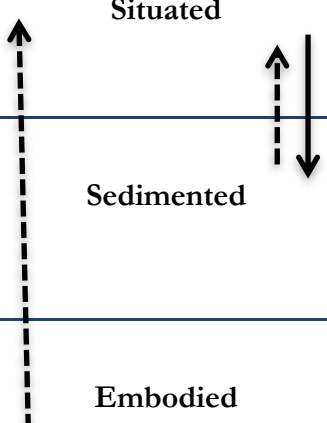
Levels	Structure	Activity
 Situating	Situated norms = The local conversation, locally accepted metaphorical categories	Creative use Negotiation of metaphorical categories
Sedimented	Weakly sedimented norms Strongly Sedimented norms	Use/interpretation of more or less strongly sedimented metaphors (discourse metaphors/ metaphoremes)
Embodied	Sensory knowledge Body schemas Mimetic schemas	Bodily acting Pragmatic inference Analogy-making

Figure 4: The present theoretical framework summarized through the Motivation and Sedimentation Model (MSM).

Any metaphorical expression will be motivated through a process of analogy making, an embodied resource shared by all human beings, through which iconicity between a source and target object can be construed. Pre-conventionally these objects are concepts based on sensory knowledge, body-schemas and mimetic schemas, shared or sharable by all human beings through embodied intersubjectivity (see Section 2.2.3). When first uttered as an instance of creative use, these expressions need to be understood by the hearer as a comparison where similarities in features and structures between the two objects are identified, forming a metaphorical category (Bowdle and Gentner, 2005).

This metaphorical category may then be negotiated by the speakers through subsequent use, stabilizing the metaphorical category for future use, as proposed by Bowdle and Gentner (2005). Thereby, the expression is sedimented as a sign comprised of a specific representamen and a specific semiotic object (-category): a metaphoreme (Cameron and Deignan, 2006) or discourse metaphor (Zinken, 2007). These sedimented metaphors should be preferred over non-sedimented

metaphors in conversation, given that the necessary sedimented norms are shared by the interlocutors. Once thus sedimented, these expressions and their respective metaphorical categories may serve as points of reference, i.e. motivating factors in a sedimented structure, for new emerging metaphors. Understanding of these novel expressions will be much easier for speakers participating in the underlying sedimented norm than non-participants, resulting in different socio-cultural groups using and “inventing” different metaphors. More wide-spread norms will be called *strongly sedimented*, and less wide-spread norms *weakly sedimented*. As the two generations considered in this study speak the same language and live in the same geo-political area, they can be expected to share most strongly sedimented norms and expressions. At the same time, their socio-cultural differences can be expected to result in different weakly sedimented norms.

Acting as common ground for metaphor production/comprehension, whatever normative factors (sedimented and/or situated) may in part motivate and stabilize an expression must be known to the listener before the expression such as intended by a speaker can be effortlessly understood. If they are not, these factors have to be explained, the meaning of the expression will be understood through comparison, and the metaphorical category *qua* sign-object has to be negotiated between speaker/listener for the metaphoric sign to become stabilized and sedimented as a situated norm. If the listener initiates negotiation of the expression’s meaning (e.g., “*shattered liver? Ah, you mean you were really sad, right?*”) or else shows uncertainty (e.g. “*Ah... Right...*”), this may signal to the speaker that the norm motivating the expression was not known. After this display of lack in common ground, the expression will be cautiously used and further negotiated, or else avoided in the rest of that conversation.

In sum, it may be assumed that the structures of the Embodied and Situated levels will be immediately accessible to all speakers engaged in the conversation. The respective weakly sedimented socio-cultural norms and preconceptions, i.e. structures on the Sedimented level, may differ and thus hamper figurative communication across generations and lead to weakly sedimented metaphors being preferred in intragenerational conversations to a much larger extent than in inter-generational conversations, where weakly sedimented norms cannot be expected to be shared to the same extent. Thus, a quantitative similarity in use of bodily and strongly

sedimented metaphors and a quantitative difference in weakly sedimented metaphors may be expected between inter- and intragenerational conversations.

Further, it may be expected that novel metaphorical expressions will be more or less strongly motivated by the Embodied level, not only in terms of analogy making, but also in terms of reference to body-parts (as in the imagined example in the previous paragraph) or bodily sensations, as these are likely to constitute a common ground otherwise lacking from the sedimented structures.

On this basis, and the discussion of cross-generational difference in Section 2.4, we may formulate the following *general hypotheses*:

- I. Metaphors motivated by weakly sedimented norms will be more common in conversations within generations than those between them.
- II. Metaphors motivated by strongly sedimented norms will be equally common in conversations within and between generations.
- III. Novel metaphors will occur more often in conversations between generations, compensating for the lack of shared weakly sedimented norms.
- IV. Novel metaphors will in general be more strongly linked to the Embodied level than are sedimented metaphors.

These general hypotheses are further operationalized in Chapter 3, after the methodology of the empirical study has been presented.

Chapter 3. Methodology

3.1 Introduction

This chapter describes the methodology of the empirical study. First, I describe how *data generation* was conducted through moderator-led discussion sessions with dyads of participants (Sections 3.2 and 3.3). Second, I show how metaphor identification was performed by way of a procedure based on formalized native-speaker intuition (Section 3.4). Then I explain how classification of metaphors as differentially motivated was performed along two axes: *sedimentation* such as determined through lexica and corpora, and *embodiment* operationalized through explicit bodily reference (Section 3.5). The general hypotheses at the end of the previous chapter are finally operationalized in Section 3.6.

3.2 Participants

24 participants were recruited from the baby-boomer (born 1945-1955) and millennial (born 1982-1992) generations (as defined in Section 2.5), 12 participants from each generation. The recruitment ads advertised an experiment on “how people of different ages communicate about personal experiences”, actualizing the respective ages to a certain extent, thus prompting the participants to act as “representatives” of their age-group through the recruitment process itself, without disclosing the exact goal of the research project (see Kahlin, 2008).

As available and willing participants were very hard to find, no screening for socio-economic background was performed. Instead, I took care to note whatever information on occupation and socio-economic status the participants shared during the conversation (as summarized in Appendix A). This method is implicitly supported by Wood et al. (1971), who observe in a part of their study that:

[...], it seemed from interviews with participants that the clues [provided between participants] provided information more relevant to the subjects than the initial statement [regarding their respective co-participant] about age, socio-economic background, and education. Even though the participants had no idea who their partners were, they were able to generalize from the clues and responses. [...] The on-going feedback, then, may be as important as the initial impression. (Wood et al. 1971, p. 167)

It was thus expected that socio-economic or occupational backgrounds of the participants, salient enough in the conversation to affect their respective metaphor use, would be visible in the conversational discourse. To be able to satisfactorily survey the interaction and transcribe the conversations, the number of participants per recording session was limited to two participants per session, i.e. *dyads*.

Three types of dyads were examined: Babyboomer – Babyboomer (BB), Millennial – Millennial (MM), and Babyboomer – Millennial (BM) with four dyads of each type, yielding a total of 12 dyads, balanced for gender. In pairing up participants in dyads, care was taken to avoid friends or acquaintances participating in the same dyads, as they could be expected to often rely on taken-for-granted assumptions (i.e. pre-existing weakly sedimented norms) in their communication (Morgan 1997, p. 9). Once dyads had been formed and suitable times were found, the participants were called to the discussion sessions.

3.3 Elicitation and transcription

The data generation employed the general practical methodology of audio-recorded, moderator-led focus groups as thoroughly described by Krueger et al. (1998). The sessions were held at LUX, Lund University. Before each session, the rooms and their furniture were cleared of distracting whiteboard drawings, rubbish, misaligned chairs etc., and the recording equipment was sound checked. To keep the moderator sufficiently focussed, no more than two sessions were held in a single day, following the recommendations of Krueger et al. (1998, pp. 9-14).

Upon arrival, the participants were greeted and presented with a form of informed consent (provided in Appendix B), which clarified the general nature of the study, how the data was to be

used and their right to cancel participation at any time. The form also stated that any names of people or places would be anonymized (e.g., [NAME1] or [TOWN2]). The role of the moderator as structuring but not participating in the conversations was clearly stated in the form, as well as orally.

The moderator initiated three consecutive topics to be discussed by the participants. If the conversation halted longer than five seconds, the participants were asked to elaborate their accounts or provide further accounts of the discussed topic. Otherwise, the moderator remained silent and did not participate in the conversation. When participating, the moderator strived to use only *value-neutral* speech and gestures (see Krueger et al., 1998, p. 27-29).

The three topics *favourite movies*, *childhood dream jobs*, and *dangerous/frightening situations*, were initiated by open questions to the participants, as in (a-c):

- (a) What is your favourite movie, and why?
- (b) What was your dream job when you were young?
- (c) Have you ever been in a situation where you were very afraid, even afraid that you might die?

These topics were balanced between being engaging (Labov, 1972, pp. 209-210) and avoiding the risk of “over-sharing” (Krueger et al., 1998, p. 26). The topics were not disclosed to the participants prior to the recording. The first two topics were discussed for approximately ten minutes each as “warm-ups”, allowing the participants the opportunity to establish some degree of familiarity with one another and situated norms (see Section 2.4) *qua* common ground between them, facilitating communication (see Lundholm Fors, 2015, e.g., pp. 72-73). Although not transcribed, these first 20 minutes were recorded. This was to reveal potential utterances regarding socio-economic status and for later cross-references. The third topic, serving as the target for data collection, was discussed for 20 minutes and later transcribed. If this discussion surpassed 20 minutes, only the last 20 minutes were used for analysis. After the session, the participants were informed about the full nature and aim of the study and invited to ask further questions. Finally, they were thanked and rewarded with one cinema ticket per person (obtained from the MA Program for Language and Linguistics, LU).

The last 20 minutes of each session were transcribed through the software *Express Scribe* in one line per intonational unit, coding for pauses, hesitations and overlapping speech, non-linguistic signals (e.g. gasps and laughter) as well as instances where accompanying gestures expressed a significant part of the meaning of the utterance, as shown in excerpt (4) taken from the transcription shown in Figure 5. These features were coded to reveal para-linguistic information that could be important for understanding the context and intended meaning of expressions. Finally, the transcripts were scanned for potential metaphors as described in the following section.

(4) *Han@bara@stod@såhär@han@blev@ju@så@lång@(visar en mycket kort människohöjd med båda händerna)*⁹

‘He just stood like this he became this tall (shows a very short human height with both hands)’

Below, a legend for the transcripts is provided.

1:	Speaker identity
[]	Overlapping speech
(NAMN1)	Anonymized name of person
(STAD1), (LAND1)	Anonymized name of town or country
(in)	Speech while inhaling
@	Laughter
,	Short pause
..	Longer pause
...	Notably long pause
(?)	Speech inaudible
(det?)	Hard to hear speech, complete with a guess (here guessing that the speaker said ‘det’)
(xxx)	Other remark on speech or simultaneous gesture

⁹ This entire sentence was uttered while laughing.

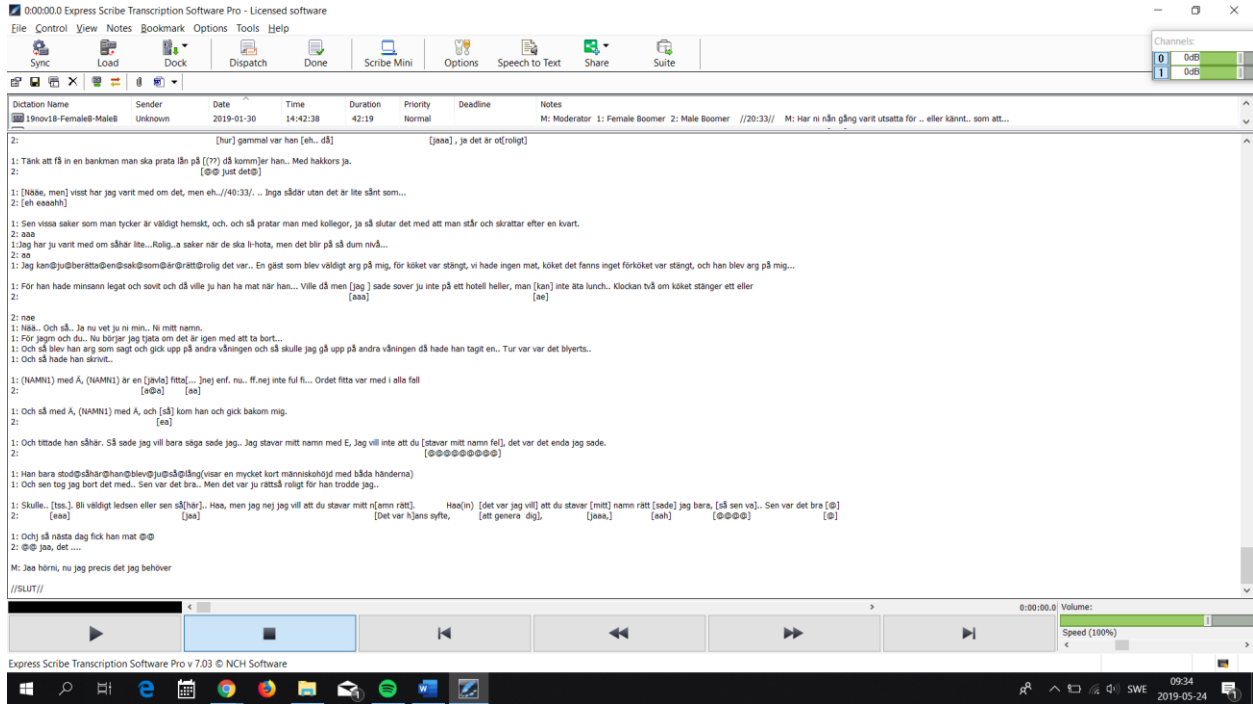


Figure 5: The transcription through Express Scribe.

3.4 Metaphor identification

The identification of metaphors in the transcripts was inspired by the *Metaphor Identification Procedure* (MIP, Pragglejaz Group, 2007), but adapted to the theoretical background, definitions and research goals of the present thesis, as described in Chapter 2, and aided by insights and suggestions from the *Discourse Dynamics Approach* (DDA, Cameron and Maslen, 2010a). As earlier definitions and identification-methods of metaphors have varied extensively depending on explicit or implicit underlying theories and assumptions, the present identification-method will here be thoroughly explicated through a brief review of MIP, followed by the present identification method and its current practical implementation.

3.4.1 MIP and its problems

One of the most popular methods of identifying metaphors in text is the so-called Metaphor Identification Procedure:

1. Read the entire text–discourse to establish a general understanding of the meaning.
 2. Determine the lexical units in the text–discourse
 3. (a) For each lexical unit in the text, establish its meaning in context, that is, how it applies to an entity, relation, or attribute in the situation evoked by the text (contextual meaning). Take into account what comes before and after the lexical unit.
 - (b) For each lexical unit, determine if it has a more basic contemporary meaning in other contexts than the one in the given context. For our purposes, basic meanings tend to be
 - More concrete [what they evoke is easier to imagine, see, hear, feel, smell, and taste];
 - Related to bodily action;
 - More precise (as opposed to vague);
 - Historically older;
 Basic meanings are not necessarily the most frequent meanings of the lexical unit.
 - (c) If the lexical unit has a more basic current–contemporary meaning in other contexts than the given context, decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it.
 4. If yes, mark the lexical unit as metaphorical.
- (Pragglejaz Group, 2007, p. 3)

Although these explicit steps make MIP in principle intersubjectively valid, some of them discovered to entail problems for the present study, and the procedure was therefore amended. First, analysis of every single lexical unit (steps #2 and #3a) would be too time-craving for a sole analyst, considering the time-limits of the present master’s thesis. In addition, the context sought in step (3a), as well as multi-word constructions, may easily be overlooked, as “[e]ven when being listed or sorted, metaphors need to somehow retain their context” (Cameron et al., 2009).

Second, the importance of a “more basic” sense is often taken for granted, but as seen in step #3b, the criteria for this differ, and need not overlap. Dorst et al. (2013, p. 92) note that “[...] the distinction between concrete and abstract, and between human and nonhuman, is not clear-cut and many cases seem to be in between abstract and concrete or between human and non-human”.

Thus, the final decisions on which meaning to count as more basic need to be made through exhaustive inter-analyst discussions. This was not possible due to the limitations in personnel and time for a master's thesis. Further, as the present research compares degrees of sedimentation and body-relatedness in used metaphors, historical age and body-relatedness cannot constitute initial exclusion-criteria in metaphor identification.

Third, although not stated in the criteria, step #3b relies on a chosen lexicon for identifying other meanings. None of the Swedish lexica contemplated for this study (presented in Section 3.5.1) show consistent distinction between *vagueness* and *polysemy* (see e.g. Geeraerts, 1993) in their entries, and if distinctions are suggested through the hierarchy of entries and sub-entries, these often differ between lexica. As the current definition of metaphor (see Section 2.3) requires “two different interpretations”, here specified as being in a relation of polysemy, this is problematic. Fourth, the criterion in #3c that a contextual meaning should “contrast with” but be understandable “in comparison with” a more basic meaning is quite vague.

These issues were addressed as follows, with the help of MSM, and suggestions from the DDA (Cameron et al., 2009; Cameron and Maslen, 2010a, 2010b; see further Section 2.4.3). First, the initial identification was performed on metaphoric expressions as wholes. This reduces the analyst's workload, and the annotated expressions may more easily be analysed in their context as multi-word constructions. The length of each metaphorical multi-word construction was determined through “start[ing] from the most clearly incongruous word and work[ing] outwards” (Cameron and Maslen, 2010a, p. 108), determining if any further words of the phrase are potentially incongruous in the given text *qua* context. This helped to further clarify the contextually relevant interpretation of each expression, i.e., criterion (c) of the MSM definition of metaphor, given here once more:

An expression in a given semiotic system (or a combination of systems) with (a) at least two different potential interpretations, (b) standing in an iconic relationship with each other, where (c) one interpretation is more relevant in the communicative context, and (d) can be understood in part by comparison with the less relevant interpretation. (Stampoulidis et al, 2019, p. 10).

Second, the demand of “basicness” in #3b and #3c was changed for the requirement that the lexeme must have another meaning through which the locally employed meaning can be

understood. Third, lexica were not used in finding other possible meanings. Instead, these were identified by way of the native-speaker intuition of the analyst, a co-coder and a third co-analyst (see below). Fourth, MIP's step #3c was replaced with MSM's criteria (b) and (d) such that the two meanings must be in a relationship of iconicity where the local use can be understood in part through the other interpretation.

3.4.2 A metaphor identification procedure based on MSM

The considerations aired in the previous sub-section gave rise to the following MSM-based metaphor identification procedure:

- 1. Become familiar with the discourse as seen in the transcript.*
 - 2. Working through the text, find and annotate potentially ambiguous language use.*
 - 3. Determine the potential interpretations of each annotated expression.*
 - 4. For each annotated expression, answer the following questions:*
 - a. Is the local use and another interpretation of the expression intersubjectively acknowledged as two separate meanings, such that the expression can be considered polysemous?*
 - b. Can a relation of iconicity be distinguished between the local use and the other interpretation, such that the local use can be understood through comparison with the other interpretation?*
 - c. Is the relation between the meanings one of generalization or specialization?*
- If questions a-b could be answered "yes", and c with "no" the expressions are to be coded as metaphorical.*

I explicate and illustrate the application of these steps below.

- *Step 1+2*

Familiarity with the discourse was acquired through the analyst's presence at the conversations and their subsequent transcription. Ambiguous language use was marked in three subsequent

read-throughs, the repetition aiming to compensate for the limited watchfulness of the sole identifier. Following both MIP and DDA (Pragglejaz 2007, p. 29; Cameron and Maslen, 2010, pp. 111-112), grammatical word-classes were not analysed, in line with the common distinction between *content* and *function* words, where content words are characterized by clear lexical content and function words have a more schematic, “syncategorematic” meaning (e.g. Bundgaard, 2010). Thus, only content words (i.e. nouns, non-copula verbs, adjectives and adverbs) were analysed. Further, auxiliary verbs and sentence adverbials (corresponding to disjuncts, negations and modal markers) were excluded from analysis due to their predominantly syncategorematic meaning and unclear lexical content. Expressions in English were not taken up for analysis, as their conventionality could not be controlled by Swedish lexica.

The totality of the metaphors, along with their immediate context, are presented in Appendix D with the candidate metaphors in bold underlined writing, as part of the polysemy-test spelled out in step 4a below. 10% of the total utterances, with the annotated expressions in bold underlined writing, are presented in Appendix C, along with their analysis.¹⁰

- *Step 3*

In this step, the contextually relevant interpretation was spelled out next to the other possible interpretation for each potentially ambiguous word/phrase, as exemplified in (5).

(5) *Javisst, det gäller att hålla sig kall*

‘Indeed, one must keep oneself cold.’

Locally relevant interpretation: calm, clear-minded

Other interpretation: with low temperature

Working through the material, it became obvious that the morphology of the expressions sometimes greatly affected their potential for polysemy. While finite verbs could be seen as having two distinct interpretations, as in (6) and (7), corresponding participles and nominalizations were often found to have only the more abstract interpretation of the two, as in (8).

¹⁰ The appendix was reduced to this size due to the full list of candidate metaphors and analytic arguments being too extensive to present comprehensively in non-digital form. For the full list with the results of all methodological steps performed for this thesis, please contact the author through e-mail: bjoornt@gmail.com.

(6) *Akta blomkrukorna när du öppnar fönstret!*

‘Look out for/stay clear of the flowerpots when you open the window!’

(7) *Hon aktade sin gamle lärare högt*

‘She revered her old teacher highly’

(8) *Han var en aktad person i samhället*

‘He was a respected/highly regarded person in society’

Therefore, participles and nominalizations were searched for in corpora¹¹ in a search string that would prompt a physical, concrete and/or non-metaphorical reading of the word in question. For these search strings, the first 100 hits were examined. If physical/non-metaphorical uses of the nominalization/participle were found, the word use in the transcript was considered to have several possible interpretations. If not, the participle/nominalization was considered to have no other possible interpretation than the local, and therefore was not classified as polysemous.

Further, lexicalized phrases and phrasal verbs were considered to be representamina in their own right, and thus not seen as polysemous in relation to their constituent words. They were identified through intonation, e.g. *gå till* (a non-phrasal verb construction with stress on *gå*, ‘walk to’) vs. *gå till* (a phrasal verb with stress on *till*, ‘happen’, ‘be conducted’), or through fossilized morphology (e.g. *stå till svars*, literally ‘stand to answer’, meaning ‘be held responsible’, where *svars* exhibits a non-productive archaic use of the genitive case) (see Teleman et al., 1999, pp. 649-650). Some further, larger fixed phrases were identified during the construction of the polysemy tests described below under Step 4a.

Compounds were not seen as potentially metaphorical in relation to their constituents, except for morphological derivations where a root morpheme was preceded by an amplifying prefix (e.g. *jätteflummig*, where *jätte-* has the meaning of ‘very’, was analysed as an instance of *flummig*). In cases where word roots were used outside their usual word classes, e.g. noun roots used in verbs (as in *apa sig*, roughly ‘to monkey around’), the contextual and the “usual” uses of the root were seen as different representamina and were thus not analysed as polysemous in relation to each other (in contrast to Pragglejaz Group, 2007, p. 28). Further, instances where the context

¹¹ Språkbanken, see Section 3.5.2

allowed an expression to be equally well interpreted as either metaphorical or not were not considered for analysis. Finally, explicit similes were excluded from analysis, for practical reasons (i.e. manage the transcripts in the time available), and as they cannot indicate the presence of a metaphorical category (as presented in Section 2.4.2; see further Bowdle and Gentner, 2005). In cases where a simile-marker was uttered *after* an otherwise metaphor-like expression (for example *Då går skottet av liksom såhär*, ‘then the shot goes off like in this manner’), the expression was counted as a metaphor-candidate.

- *Step 4a*

After a list of ambiguous expressions had been produced, the expressions’ status as polysemous was investigated in a test modelled after the *logical* or *truth-theoretical test* for distinguishing polysemy from vagueness presented by Geeraerts (1993), and attributed to Quine (1960). The reasoning is that, despite the difficulties of distinguishing polysemy from vagueness, passing this test can be taken as evidence for polysemy (i.e. two different senses), while failing it indicates vagueness/generalization (i.e. two uses of the same sense). The tests were performed by the author, an independent native speaker and a third analyst, and were structured as follows.

The expressions were listed such as seen in their immediate context in an excerpt of the transcript. The performer of the test was asked to answer the question of whether or not something could be a referent of the expression such as used in the transcript, without being a referent of the other interpretation, with a “yes” or “no”:

- “Can something be a [noun](local use), without being a [noun](other meaning)?”
- “Can one/something [verb](local use), without [verb]-ing (other meaning)”
- “Can one/something be [adjective](local use), without being [adjective](other meaning)?”

For example, (9) was judged as polysemous on this basis.

(9)

Swedish original:

skulle cykla och så höll jag inte avstånd från bilen

Kan man ”hålla” (bevara, upprätthålla) något utan att
”hålla” det (som man håller någons hand)?

JA

NEJ

English translation:

was going to bike and then I didn't hold distance from the car
 Can one “hold” (keep, uphold) something without “holding” it
 (as one holds someone's hand)?

YES

NO

The answers of the author and the independent native speaker were compared. If marked equally by both testers, with YES the expressions were taken up for further analysis. If marked with NO, they were rejected. If the testers' answers conflicted, or either tester had found a question unclear, these expressions were discussed between the testers. The resulting list of accepted/rejected expressions was then compared with the test results of a third analyst and further discussed, yielding a final list of accepted expressions to be analysed in the final step.

In this step, some (often longer) longer multi-word expressions were found to be phrase verbs although missed by the previous step. They were discovered as they were impossible to form into examples of another meaning (written within parentheses in the above example 9), the local interpretation ‘so she doesn't like to go out’ being bound to the specific syntactic construction found in the transcript, as exemplified with a literal translation in (10).

(10) *Så hon eh gillar inte att... ge sig ut men eh...*

‘So she um doesn't like to... Give herself out but...

In this and similar cases, no single word (like the above *ge* ‘give’) could be analyzed on its own, as the whole expression was a fixed construction with a specific word-order (in the above case “give – reflexive pronoun – directional adverb”). Seeing as the construction as a whole does not have any other possible interpretations, it was not taken up in the polysemy-test or for further analysis. The final test results such as produced by the present author and the co-coder and discussed with the third analyst are presented in Appendix D.

- *Step 4b + 4c*

In the final step, a relation of iconicity was sought such that the local meaning could be understood through the other meaning by way of iconicity, i.e., a more or less schematic form of resemblance between two entities (see Section 2.3). To efficiently exclude other relations between the local and other word, five criteria for exclusion were introduced:

- Lack of iconicity: no similarity could be reasonably argued between the two meanings (e.g. *komma på* ‘come unto’, the phrase conventionally meaning ‘come up with’, ‘find out’, ‘realize’)
- Lack of directionality: the local meaning could not be said to be understood in terms of the other meaning (e.g. *global*, ‘global’, referring to the communicative interconnectedness of the world, seen in juxtaposition with another meaning ‘globally occurring’; here, it is hard to argue that either meaning should be understood in terms of the other)
- Generalization: the local use refers to a hypernym of the other meaning such that their only difference is that the local use lacks a semantic feature in comparison to the other (e.g. *gå* ‘walk’, as used for physical motion in general, has lost the feature ‘bipedal’),
- Specialization: the local use refers to a hyponym of the other meaning such that their only difference is that the local use has an additional semantic feature in comparison to the other (e.g. *ingen idé* ‘no idea’, as meaning ‘not a good idea’ or ‘pointless’, has gained the feature ‘good’/‘useful’),
- Metonymy: a spatial, temporal or conceptual contiguity could be seen between the two meanings (e.g. *huvud*, ‘head’, referring to one’s mind, spatially contiguous with the head).¹²

Further, the last few phrases like that in (10) were identified and purged from the set of metaphors to be further analysed in this step. An excerpt with 10% of the result of this step is presented in appendix C, along with their analysis in terms of the criteria of the present identification-procedure. Metaphors uttered by the moderator were annotated along with those of the participants but were not taken up in the quantitative part of the analysis.

¹² Metonymy is a relation of where the two senses are associated in space-time, or in a part-whole relationship (e.g. *läsa*, ‘read’ denoting the process of studying, a part whereof is reading). It does not include instances like *klippa i filmen* ‘(to) cut in the film/movie’, where the expression may once have involved contiguity between the two interpretations, but no longer does (as, e.g., film cutting is now done digitally and not with a knife/pair of scissors). Such cases were rather seen as iconic.

After this identification procedure, the metaphors were analysed for sedimentation and embodiment as described in the following section.

3.5 Metaphor Categorization and Relative Frequencies

The metaphors were judged as being weakly, strongly or non-sedimented on the one hand, and more/less body-related on the other, as described below. Further, for subsequent quantitative analysis, the metaphors were divided into types, as described in the end of this subsection.

3.5.1 Operationalizing sedimentation

As stated in Chapter 2, the sedimentation of metaphors can be understood as the stabilization and spread of metaphorical expressions in a speaker community. The expressions' degree of sedimentation was operationalized on the basis of whether the expressions occurred in the lexica and/or corpora (see the end of this section) with those particular meanings seen in the transcripts, dividing the expressions into three categories (from most to least sedimented): Strongly sedimented (S), Weakly sedimented (W) and Novel (N).

- Strongly sedimented (S) metaphors were requested to be found in the lexica used (see below) with the same meaning as employed in the transcript, either such as a sense of the corresponding lexicon entry, or as an “example use”, as in (11):

(11) *Osökt glider in på nästa ämne*

‘Unsought slide(s) in unto the next topic’

First, *Glida in på* was searched for as a phrase. As it yielded no results, the entry for *glida* ‘slide’ was looked up. Along with the general meaning “to move evenly and with constant contact with the ground”, another meaning was found: “Also figuratively.

Example: [...] the conversation slid unto another topic”¹³. As the same meaning could be found in the lexica, the expression was determined to be (S)

- The intermediate category (W) was defined by that the expression did not exist in lexica as a sub-sense or “example use” but did exist in the corpus (Språkbanken, through KORP, see below). In order to count as “existing” in the corpus, the expression had to be found in the corpus with the same meaning as discerned in the transcript.¹⁴ As an example, the phrase in example (12) could not be found in the lexica with meaning corresponding to that in the transcript, either as phrase or as isolated words.

(12) *Att kunna koppla ifrån och kunna...*
‘To be able to disconnect and be able to...’

To be able to search for instances where these terms have been used with the same meaning as seen in the transcripts, the corpus searches were performed for the expression as a whole. To avoid excluding occurrences in the corpus constructed with alternate tenses, morphology or sentence-structure, the search strings were constructed so that all lexemes were replaced with lemmings¹⁵ in the search string, and an allowance for 5 words between the search terms within the same sentence was admitted.¹⁶ When a search string yielded results from the corpora, as in (13) with a meaning equivalent to that in (12), the expression was determined to be weakly sedimented.

(13) *Gäller att jag kopplar ifrån allt runt omkring mig.*
‘I have to disconnect everything around me’

- For the last, non-sedimented category (N) the expression from the transcripts could not be found either in the lexicon or in the corpus with the same meaning. As an example,

¹³ Malmgren, S (Ed.) 2019, ‘Glida’, *Svensk Ordbok*, Svenska Akademien, Stockholm

¹⁴ The entire corpus-sentence in which the expression was found was copied to the table used for analysis next to the corresponding expression use found in the transcripts, allowing for methodological transparency. To obtain this table, please contact the author by e-mail: bjoornt@gmail.com.

¹⁵ Lemmings, the term such as employed by Språkbanken, corresponds to all forms of a lexeme. As an example, instances of ‘run’, ‘ran’, ‘running’, etc. all produce search-hits when searching for the lemming ‘run’.

¹⁶ Although simpler search-strings often yielded hits with metaphorical uses of the word/phrase, this type of search-string was always tested as a “last resort”, and controlled for the first 100 search hits before the expression could be judged as novel (N).

consider (14) where the conversation was about how a nurse can try not to feel too much empathy for some patients, in order to be able to treat very serious injuries without feelings clouding her judgement.

(14) *man vrider om en knapp*

‘One twists a button’

As this expression could not be found in lexica or corpora, it was judged to rely on the universal analogy-making potential of the Embodied level: the bodily sensation of a sudden, volitional change in mindset is expressed through analogy-making, as a comparison to the quick, volitional button-switching is exploited.¹⁷

These operationalizations allowed for minor discrepancies between expressions in transcripts and external sources, as long as the metaphors showed a clear similarity in representamina and source object. For example, *stå runt omkring* ‘to stand around’, ‘to surround’, meaning ‘to be emotionally close or related to’ was seen as equivalent to the phrase *stå runt om* (synonymous in both literal and metaphorical meaning). *Rinna ut i sanden* ‘to run/pour out in the sand’, with the same metaphorical meaning as in English, was seen as equivalent to the phrase *rinna ut* ‘to run/pour out’, if they were used with the same figurative meaning.

The searches for strongly sedimented (S) metaphors were performed through the website Svenska.se, a search engine provided by Svenska Akademien (the Swedish Academy) that performs simultaneous searches in the three lexica: Svenska Akademiens Ordlista (SAOL) Svenska Ord (SO) and Svenska Akademiens Ordbok (SAOB). SO has its main focus on “[...] what the entries mean and how they are used” (<https://svenska.se/om/om-ordbockerna/>, 14/5

¹⁷ However, also the Situated level is at play: Prior to the expression, participant 1 (a non-nurse) retold stories he had heard from a nurse about gruesome injuries inflicted in, e.g., traffic accidents, and signaled that he would find it difficult to treat those injuries in a professional manner. As participant 2 was a nurse, participant 1 uttered the sentence (14) to indirectly ask how a nurse deals with those situations. Thereby, the meaning of the expression is in part motivated by the situated context of discussion. While I could not find corresponding uses in either lexica or corpora, this does not completely exclude the possibility that they have existed before or do not rely on earlier linguistic experiences of the speaker in question. However, they are uncommon enough to be viewed as novel in relation to criteria used at present.

2018, headline: SO, my translation), and was used as the primary lexicon. In a few occasions, metaphoric meanings that were not stated in SO were stated in the more minimal SAOL. In such cases, also these metaphoric meanings were analyzed as strongly sedimented.

For determining the weakly sedimented (W) metaphors, Språkbanken ('The language bank', <https://spraakbanken.gu.se/korp/>) was used. Språkbanken provides the largest collection of Swedish written language corpora to date, spanning over several hundreds of millions of tokens in several sub-corpora, made available through the search engine Korp (see further Borin et al., 2012).¹⁸

3.5.2 Operationalizing embodiment

Due to the difficulty of determining the exact role of "embodiment" in individual expressions (see section 2.4.1), this factor was operationalized as overt reference to the lived body (see Section 2.2.3), i.e. as *body-relatedness*. This involved expressions that denoted any one of the following:

- (a) a bodily action, e.g. *jag har nog släppt det* 'I have probably let go of it', meaning 'I probably no longer care about it',
- (b) the body or part thereof, e.g. *halsen på flaskan* 'the neck of the bottle'
- (c) a bodily sensation, e.g. *fem killar hon inte känner* 'Five guys she doesn't feel', meaning 'five guys she doesn't know', or
- (d) bodily properties, e.g. *Man blir ju ganska stark* 'One becomes rather strong', meaning 'one becomes rather emotionally resilient/hardy'

¹⁸ For the present analysis, some sub-corpora were excluded from the searches to keep the computation-times at a manageable level. The sub-corpora used in the present analysis are: "Finlandssvenska texter", "Svensk Författningssamling", "Bonnierromaner I/II", "Nordstedtsromaner", "SUC-romaner", "Bloggmix", "Tidningstexter" in its entirety, "Forskning & Framsteg", "SNP 78-79", "SUC 3.0", Swedish Wikipedia (January 2017), and "Talbanken".

To ensure that instances of (c) and (d) indeed referred to bodily sensations and properties, they were first divided into expressions where the source-objects were either *proximally* or *distally* experienced sensations and properties. Those with proximally experienced source objects were accepted as body-related, while the distal ones were accepted as body-related if the expression focused on the *noesis*, i.e. experience itself rather than the *noema*, object of experience (see Section 2.2.3). For example, consider the noesis-focused property (15) and sensation (16), and the noema-focused property (17) and sensation (18). On this basis, (15) and (16) were considered body-related and (17) and (18) were not.

(15) *Kände du att du var iskall...*

‘Did you feel that you were ice-cold...’

(16) *Ett annat sätt att se på saker och ting*

‘another way to look at things’

(17) *Det är klart att man ramlar just där*

‘It is clear that one falls exactly there’

(18) *Det visade sig att hon hade diabetes*

‘It showed itself that she had diabetes’

By way of these operational definitions, the expressions were divided into three categories (B0, B1 and B2), presented from the most to the least body related:

- B2: two or more lexemes in the expression, acting as the source in the metaphor, were body-related (in terms of the criteria a-d).
- B1: one lexeme in the expression, acting as the source in the metaphor, was body-related.
- B0: none of the lexemes acting as sources in the metaphor was body-related.

After having identified the metaphors and annotated them for sedimentation and embodiment, they were grouped after the type of dyad they occurred in and the relative frequencies of S, W, N, B0, B1 and B2 metaphors were compared between the dyad types. 10% of the result of this analysis can be found in Appendix C.

3.5.3 Division into metaphor types

When annotating the metaphors and transferring them to a table for the subsequent quantitative analysis, it was notable that many strongly sedimented metaphors were repeated a large amount of times. Therefore, a corresponding analysis on metaphor-types was performed to give a clearer view of inter-group differences. Although different metaphorical uses of the same representamen were often hard to determine as being strictly “different” or “the same”, they were tentatively divided into types based on the following criteria, deduced from the present theoretical framework.

The division of sedimented metaphors (both S and W) into types demanded near equivalence in representamina (within the frames set in Step 3 of the identification procedure and with the allowance for discrepancies in the end of sub-section 3.5.1) and allowed for minor discrepancies in meaning. Here, the criteria for specialization and generalization (see Section 3.4.2) were applied, such that if only a single feature could be seen as separating the meanings, they were counted as in a relation of generalization/specialization and thus counted as the same type. For example, *få* ‘get’, ‘receive’ was found to have several metaphorical uses. One is *få panik* ‘get panic’, meaning ‘to panic’, which employs *få* with the object ‘to experience’, where no physical receiving takes place and no giver is imaginable. Another is *få flygtid* ‘get flight-time’, where the experiencing is not part of the meaning, although no physical receiving takes place and a giver is hard to imagine. Here, only the single feature of ‘experiencing’ could be said to separate the two meanings, and thus, they were counted as one single type. On the other hand, *gå* ‘walk’ was also used in several senses, for example ‘happen’, ‘be possible’ and ‘be sold’. Here, the two meanings have almost no features in common, and the two metaphors were thus considered to be two separate types.

Regarding the novel metaphors, the division into types was guided by Cameron and Deignan’s (2006) definition that metaphors emerge with relatively stable form and highly specific semantics and pragmatics. Thus, within each dyad-type, any discrepancy in meaning was taken as a separate type, but if re-occurring with slightly different form within the same dyad, the two metaphors were seen as the same type. As the general hypotheses relate to occurrences of metaphors within each dyad-type, types were counted for each dyad type.

Once the metaphorical expressions were categorized for sedimentation and embodiment, the relative frequencies of metaphors of each sedimentation- and embodiment degree were compared between the three dyad types BB, MM and BM.

3.6 Hypotheses

Given the extensive identification and operationalization procedures described in this chapter, the general hypotheses in Section 2.4 could be reformulated as follows, applying to both tokens and types:

- I. The proportion of weakly sedimented metaphors among the totality of metaphors will be lower in the BM dyads than in the BB and MM dyads.
- II. The proportion of strongly sedimented metaphors will not differ considerably between the three dyad types.
- III. The proportion of novel metaphors will be higher in the BM dyads than in the BB and MM dyads.
- IV. Among novel metaphors, there will be a greater proportion of body-related (B1+B2) expressions than in the strongly sedimented (S) or weakly sedimented (W) metaphors, given that embodied intersubjectivity is a strong motivation for metaphorization.

The relative frequencies of the respective categories were controlled through counting the instances, such as seen in Appendix E for every dyad and dyad type. The results, presented such as grand totals for the respective dyad-types, are presented in the following chapter.

Chapter 4. Results

4.1 Introduction

The metaphor identification process, described in the previous chapter, yielded a total of 748 metaphoric expressions among the three dyad-types as shown in Table 2. The respective measurements as yielded from the analysis are explicated in the legend of Table 2. To illustrate the general relative frequencies of metaphors in the different dyad types, the quota of metaphors per spoken word were measured. Here, it can be seen that the BM dyads produced the highest proportion of metaphors per word (2%), and the BB dyads produced the least (1.6%).

Table 2: The metaphors found and analysed in the dyad-types Boomer-Boomer (BB), Boomer-Millennial (BM) and Millennial-Millennial (MM), seen in relation to the total amount of words uttered in the respective dyad-type; Strongly sedimented (S), Weakly Sedimented (W) and Novel (N) as tokens and types, in absolute numbers (#) and percentages of the respective dyad type's total number of metaphors (%/M); Degree of body-relatedness (B0,B1 B2) as tokens and types, in absolute numbers (#) and percentages of the respective dyad-type's total number of metaphors (%/M).

TOT.	Metaphors/Words	BB		BM		MM	
	Words	14413		12698		15239	
	Metaphors	227		252		269	
	% Meta./words	1.6%		2.0%		1.8%	
SED.	Tokens	#	%/M	#	%/M	#	%/M
	S	193	85	218	86.5	224	83.3
	W	30	13.2	31	12.3	38	14.1
	N	4	1.8	3	1.2	7	2.6
	Total SED tokens	227	100	252	100	270	100
	Types	#	%/M	#	%/M	#	%/M
	S	114	81	118	81	127	77
	W	23	16	24	17	29	18
	N	4	3	3	2	7	4
	Total SED types	141	100	145	100	164	100
EMB.	Tokens	#	%/M	#	%/M	#	%/M
	B0	136	59.9	173	68.7	203	75.5
	B1	91	40.1	79	31.3	65	24.2
	B2	0	0	0	0	1	0.4
	B1+B2	91	40.1	79	31.3	66	24.5
	Total BOD tokens	227	100	252	100	270	100
	Types	#	%/M	#	%/M	#	%/M
	B0	94	67	105	72	113	69
	B1	47	33	40	28	49	30
	B2	0	0	0	0	1	1
	B1+B2	47	33	40	28	50	30
	Total BOD types	141	100	145	100	164	100

The complete results, seen for both dyad-types and individual dyads, are presented in Appendix E. The results with regard to hypotheses I-III related to degrees of sedimentation and novelty and hypothesis IV on degrees of body-relatedness are presented, in sections 4.2 and 4.3 respectively. Given the relatively small number of metaphors, only descriptive statistics are presented. Further, it shall be noted that the differences in relative metaphor frequencies between the sedimentation and embodiment types in the respective dyad types were much smaller than expected, and cannot provide ground for any firm conclusions. They can, however, serve as pointers for future research, and are well worth discussing as such.

4.2 Sedimentation and novelty

As seen in Table 2 and Figures 6 (tokens) and 7 (types), there was some support for Hypothesis I: The proportion of weakly sedimented (W) metaphor tokens was indeed somewhat lower in the BM-dyads than in either of the other dyad types, and especially in comparison with the MM-dyad type.

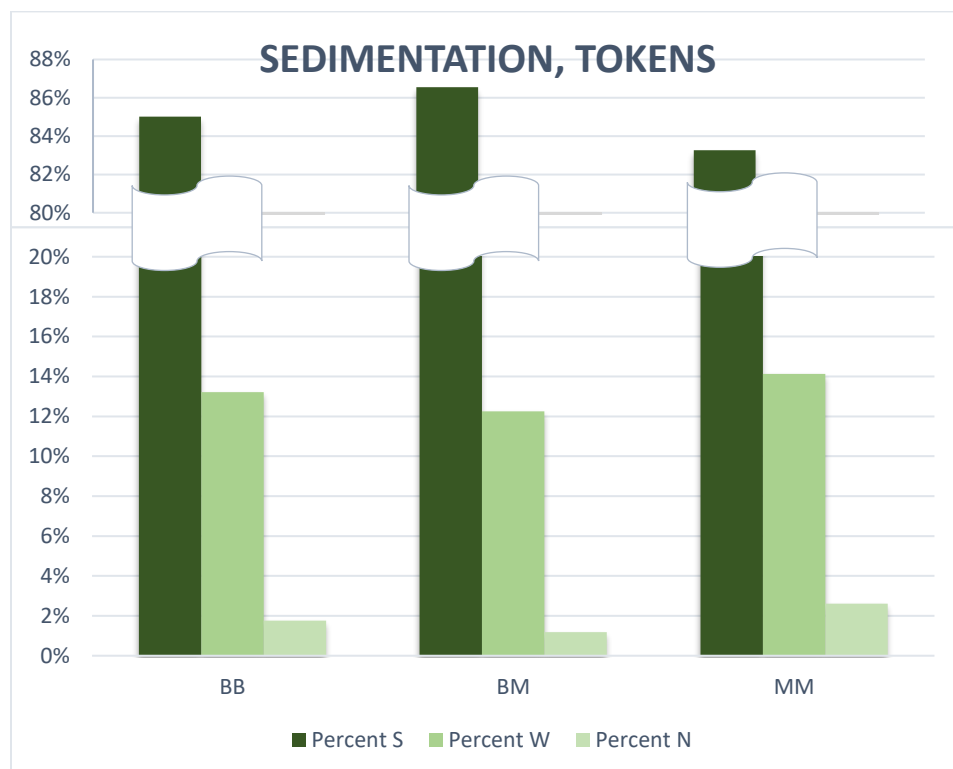


Figure 6: The three sedimentation types (S, W and N) occurring as tokens in the three dyad-types (BB, BM and MM), seen as percentages of the total amount of metaphor tokens in each dyad type.

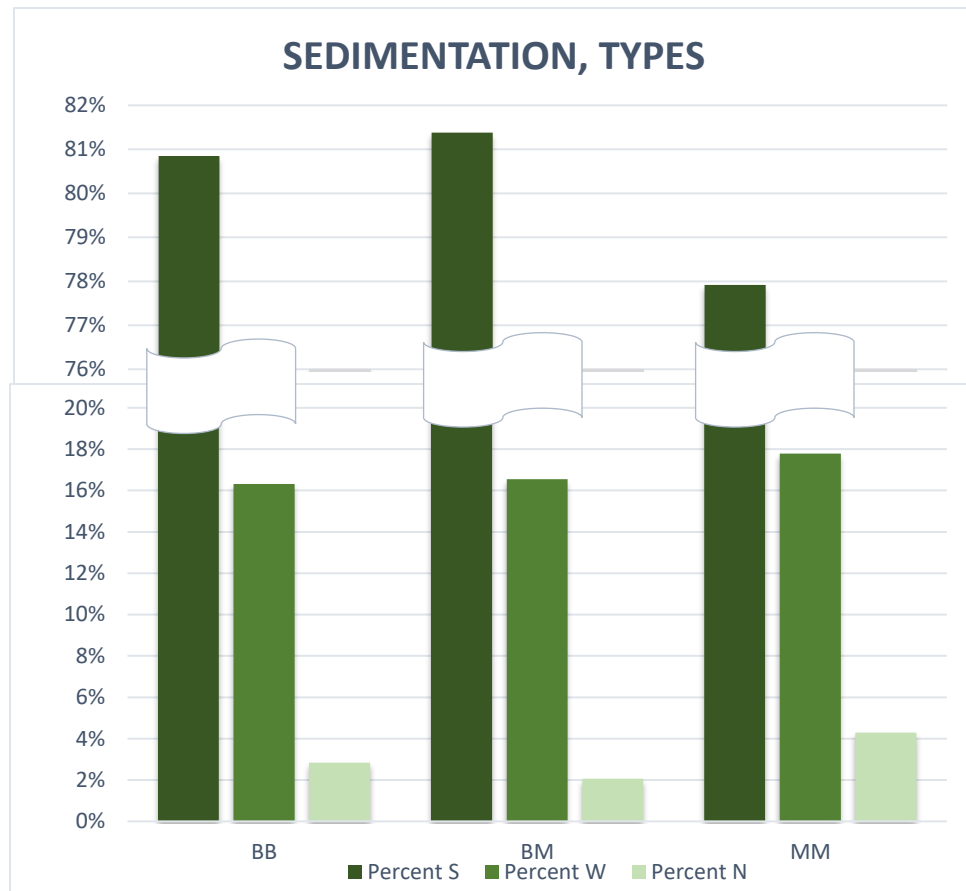


Figure 7: The three sedimentation types (S, W and N) occurring as types in each of three dyad-types per se (BB, BM and MM), seen as percentages of the total amount of metaphor types in each dyad type.

Concerning Hypothesis II, it is most appropriate to evaluate it in terms of metaphor-types, as shown in Figure 7. As can be seen, there was indeed almost no difference in the proportions between the BB and BM dyads, but the proportion of strongly sedimented metaphors (S) for MM were noticeably lower in types. Hence, the hypothesis cannot be said to be supported.

With respect to Hypothesis III, there was no support at all, as the BM-dyads produced the lowest proportions of novel metaphors overall, in both tokens and types. Again, the most notable dyad type was MM, which produced the greater proportion of novel metaphors.

4.3 Body-relatedness

The relative numbers and proportions of body-related and non-body-related expressions among the three sedimentation-types are shown in Table 3. As a reminder, B0 are non-body-related expressions, B1 are expressions where one source-object was body-related, and B2 are expressions where two or more source-objects were body-related (see Section 3.5.2). As all novel metaphor tokens occurred only once per type, this comparison was made only in tokens. Given the very small proportions of B2 expressions (see Table 2), these were combined with B1, thus making a category of metaphors where at least one expression was body-related. As shown in Table 3 and Figure 4, there was some support for Hypothesis IV, although not very strong, as the proportion of body-related expressions in the least sedimented category (N) was only marginally higher than in the strongly sedimented category (S).

Table 3: The number and proportions of metaphor tokens of every embodiment-type in every sedimentation-type.

Sed. Type	Total tokens	B0		B1+B2	
		#	%	#	%
S	636	432	68	204	32
W	99	72	73	27	27
N	14	9	64	5	36

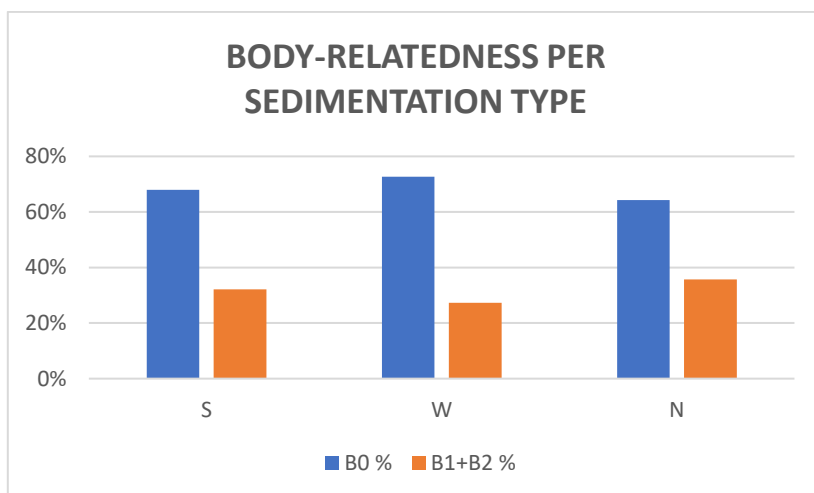


Figure 8: The amounts of metaphor tokens as non-body-related and body-related in every sedimentation-type, seen as percentages of the total number of metaphors in each sedimentation type

In sum, the four hypotheses stated in Section 3.6 were not supported even as hints, let alone as firm indications. However, some suggestions of differences between the dyad types could be shown, as discussed in the following chapter.

Chapter 5. Discussion

As shown in the previous chapter, the hypotheses could not be fully supported. However, differences in metaphor use could be seen between the three dyad types in terms of tokens, and even more clearly in terms of types. The following discussion of the results is structured along the three levels of the Motivation and Sedimentation Model (MSM), evaluating how the study has shown the respective role of each.

5.1 The Embodied level

As shown in Chapter 4, Hypothesis IV was marginally supported as the proportions of body-related expressions was indeed the highest among the novel metaphors. However, as the novel metaphors were very few, this tendency should not be overstated. Further, upon closer examinations, two of the five body-related novel metaphors relied, at least in part, on sedimented norms. Consider (19), found in the transcripts.

(19) *Okej innan vi går in där*

‘Okay before we go/walk in there’ (i.e. start discussing the topic)

Although no equivalent expression could be found in either lexica or corpora, SO did provide another very similar expression, given (20).

(20) *Vad NN sade i enrum? – Det vill jag helst inte gå in på*

‘What did NN say in private? – That I would rather not go/walk in onto’

In the SO entry where (20) was found, the expression is explicitly specified as including the preposition *på* ‘on’, which did not correspond to the metaphor in the transcripts. Neither did the corpora show any corresponding metaphorical uses of the phrase among the first 100 hits, and thus, the metaphor was analyzed as novel. However, as the source- and target objects as well as the representamina of (19) and (20) are nearly equivalent, (19) is likely to have been partly motivated by a strongly sedimented norm.

The second norm-connected body-related metaphor, given in (21), showed the same tendencies as (19), but was instead extremely similar to a weakly sedimented metaphor in (22), although not with fully equivalent representamen or object. In (21), the metaphor refers to a quick, volitional change of mindset, allowing oneself to “switch off” all empathy for a patient, which is somewhat similar to (22), found in the corpora.

(21) *Man... Vriden om en knapp sådär*

‘One... Twists a button like that’

(22) *Jag tryckte på en knapp inne i mej, tryckte och tryckte tills jag var oberörd*

‘I pressed a button inside me, pressed and pressed until I was unaffected’

Although the representamen is changed from ‘twist’ to ‘push’, and the change of mindset in (22) seems more gradual than that in (21), the change of mindset accessible through a ‘button’ remains the same. Further, *trycka på en knapp* ‘press a button’ was found in SO as part of metaphorical expressions denoting sudden, more or less volitional changes in general, but none of them denoted explicit changes in mindset.

Seeing to the overall distribution of body-related motivated metaphors, there were some intriguing differences between the dyad types. The B1+B2 tokens were somewhat higher the presence of baby-boomers and lower with the presence of millennials (see Table 2). This could be a hint of that bodily motivated metaphors “worked” especially well among older people and helped to some degree in inter-generational communication. Nevertheless, this remains uncertain, as the vast majority of all B1+B2 metaphors were also strongly sedimented (S), as shown in Table 3.

In sum, it can be concluded that the present operationalization of “embodiment” did not reveal any striking differences between novel and sedimented metaphors. This does not, of course, invalidate the role of the Embodied level as such, as all (at least partially) novel metaphors are produced or comprehended through analogy making, which according to MSM functions on this level.

5.2 The Sedimented level

As seen in Section 4.2, Hypothesis I was to some degree supported, as the BM dyads produced the smallest proportion of weakly sedimented metaphor *tokens*. However, the lowest proportion of weakly sedimented metaphor *types* was produced by the BB dyads, which contradicted the statement of this hypothesis.

The motivation for the hypothesis was that both generations were thought to have generation-specific metaphors types, i.e., weakly sedimented metaphor types that are used predominantly within the respective generations, understood as communities. However, the invention and use of such metaphors may be most typical for younger speakers. As the older generation have lived in the larger language community longer, generation-specific (weakly sedimented) metaphors that would have emerged in their younger years would have had much longer time to become strongly sedimented, compared to the corresponding metaphors of the younger generation. Thus, the baby-boomers' "own" metaphors are much more likely to have become strongly sedimented than the millennials'. This could possibly explain the higher proportion of strongly sedimented metaphors (in both types and tokens) and lower proportion of weakly sedimented metaphors in the BB dyads compared to the MM dyads (see Figures 6 and 7).

Concerning Hypothesis II, expecting similar proportions of strongly sedimented metaphors in the three different groups, the MM dyads produced somewhat fewer tokens than the other dyad types, and much fewer types. This did not support the hypothesis but rather aligns with the reasoning in the previous paragraph concerning the relative sedimentation of the generations' respective "own" metaphors. The BB and BM dyads differed less in strongly sedimented metaphor types and tokens, and thus deviated less from Hypothesis II than the MM dyads.

Further, the token/type ratio for strongly sedimented metaphors in the BM dyads (1.85) was the highest of all dyad types (BB = 1.69; MM = 1.76). In other words, strongly sedimented metaphors used in BM dyads were the most frequently repeated metaphor types, among all dyad types. Without drawing too strong conclusions, this could be interpreted as indicating that the BM dyads preferred to stick to and repeat certain strongly sedimented metaphors that were

discovered to “work” as a bridge over the generation gap due to their widespread use and high intelligibility.

In sum, the general assumption behind the hypotheses was that BM-dyads would not be able to rely on weakly sedimented norms in their communication as much as the other dyads, and would instead be forced to rely more on creating novel metaphors (N) motivated by the situated context of communication (see below). However, they rather seemed to have resorted to the communicative safety of strongly sedimented (S) metaphors, which may be why Hypothesis II was not supported. Further, the MM dyads produced a smaller share of (S)-metaphors. This could possibly be due to their generation-internal metaphors not having had the time to become as strongly sedimented as those of the older generation.

5.3 The Situated level

As pointed out, Hypothesis III was not supported. The BM dyads produced the smallest proportion of novel metaphors, and novel metaphors were generally very few, in terms of both tokens and types (see Table 2). Examining more closely the actual use of these novel metaphors in the conversations, it could be observed that they were all produced by nine out of twenty-four participants, in five out of twelve dyads (see Appendix E). Further, all three novel metaphors in the BM-dyads were uttered in one single conversation, by one single participant. As the participants were all strangers and talked for only 40 minutes, it can be argued that they did not have the time to establish a situated norm for motivating novelties. In the present dyads, proneness to metaphor creation rather seemed to be a function of individual personalities and inter-personal “chemistry”.

Turning back to Hypothesis IV regarding the body-relatedness of the novel metaphors, nine out of fourteen novel metaphors did not utilize any body-related expressions. Among these, two seemingly novel metaphors appeared to be motivated by strongly sedimented norms, similarly to that in example (19) above. One metaphor, shown in (23), was largely equivalent to a strongly sedimented metaphor, but had been augmented with a metaphor-internal gradation.

(23) ...*trillade en liten del av polletten ner för mig*
'... a small piece of the token fell down for me'

This builds on the strongly sedimented metaphor *polletten trillade ner* 'the token fell down', translatable as 'it dawned on me'. However, the metaphoric gradation *en liten del av* 'a small piece of', indicating that the insight was not complete, is indeed novel. Another metaphor used a different but synonymous verb when compared to an otherwise equivalent strongly sedimented metaphor, as shown in (24).

(24) *man föds ju hela tiden med väldigt obehagliga historier*
'one is constantly fed with very unpleasant stories'

Such as found in the transcripts, (24) is indeed novel. However, SO provided a corresponding metaphoric use of the verb *mata* 'feed', which is synonymous with the above *föda* 'feed' in non-metaphoric use. Notably, these motivations from the Sedimented level were discovered through the present author's knowledge of the respective strongly sedimented norms. Corresponding cases where seemingly novel metaphors were indirectly motivated by weakly sedimented norms unknown to the author would not have been discovered in this way. For example, (25) shows a weakly sedimented norm relating to introductory swimming classes.

(25) *Då sade ju bara simläraren jaa, [ni] får koka.. Kaffe, ni vet [...] under så bubblar man*
'Then the teacher just said yeah, [you] should boil... Coffee, you know [...] under and then you bubble'

No corresponding metaphorical uses of the phrase *koka kaffe* could be found in lexica or corpora, and the metaphor would therefore be seen as novel. However, the present author has performed the exact same exercise under the same name. Thus, this may serve as a reminder that some metaphors may indeed be part of weakly sedimented norms restricted to certain activities or situations (e.g., a swimming-school discourse), but still be invisible to the present analysis.

In the remaining seven cases, the metaphors seemed to be truly creative. Here it could be argued that the conversational context provided cues for comprehension of the metaphors, as in (26).

The metaphor, being part in explaining the speaker's fear of flying, becomes comprehensible given that this fear has become shared knowledge due to the preceding context.

(26) *förmodligen har jag där och då... Låst rädslan i mig*

'Probably I have there and then... Locked the fear in me'

5.4 Summarizing discussion

In general, it should be repeated that the differences in sedimentation and body-relatedness between the metaphors in each dyad-type were much smaller than expected and cannot be used for drawing any firm conclusions, but rather as points for discussion. Further, the proportions of the strongly sedimented metaphors were much higher than expected. When the occupational similarities/differences between the participants (see Section 3.2 and Appendix A) were compared to the amounts of words, metaphors and sedimentation of the metaphors in the respective dyads, no apparent correlation could be found.

As the vast majority of the body-related metaphors were also strongly sedimented, it was difficult to observe a clear distinction between the Embodied and Sedimented levels as motivations for metaphor use, under this operationalization of "embodiment". Bodily knowledge did not seem to motivate the majority of the novel metaphors, nor the majority of the total metaphors, and did not seem to play a major role in bridging any "communicative gaps" between the generations. This perhaps calls for toning down the role of "embodiment" in metaphor use, in contrast to Lakoff and Johnson (1980). Of course, the present method of operationalizing embodiment differs from that of CMT. However, one could argue that a clear operationalization based on explicitly defined lexical properties in actual occurring metaphor use is more transparent than theoretical speculations in terms of "mental simulation" and such. The "gap-bridging" function across generations expected to be realized by novel metaphors rather seemed to be performed by strongly sedimented metaphors, possibly due to their being more swiftly understood (Bowdle and Gentner, 2005) and thus more communicatively efficient.

The predicted similarities in strongly sedimented metaphors between dyad types were not found as clearly as expected. The instead observed dissimilarities could be explained in part by the strongly sedimented metaphors' usability in conversation with strangers, and in part by the possibility of the baby-boomers' once generation-specific metaphors having become strongly sedimented over time, as discussed in Section 5.2. From a more qualitative perspective, a few possibly generation-specific figurative expressions were present. For example, the adverb *sjukt* 'sickly', metaphorically meaning 'very' or 'unbelievably', was used ten times in three of the four MM dyads and was found only in these dyads. Regrettably, these expressions were very few, and their occurrences within certain dyads could be due to the flows of individual conversations as likely as due to generational differences.

Returning to the less than satisfactory support for hypothesis I, why were the differences in weakly sedimented metaphors in the respective dyad-types not more notable? Beyond the possible strong sedimentation of once baby-boomer-specific metaphors, it is also possible that belonging to the same generation does not per se create a group-identity rigid enough to encourage invention and use of group-specific metaphors. To find clearer differences, more specific conversation-topics or metaphor target-objects could be examined in and between groups with more established interpersonal history than in the present study, by way of more specific sub-corpora. For example, one could compare the extent to which computer-game enthusiasts talk about personal development in terms of game-mechanics (such as "experience-points" and "leveling-up") among gamer friends, versus among non-gamer friends or strangers. As noted in Section 5.3, some weakly sedimented norms may be "too weakly" sedimented to be discoverable through the present methods. Mindful of this, a future investigation along the here suggested lines would have to use more specialized inventories of metaphors for comparing metaphor-occurrences in different conversations. Further, the more exact pragmatic or emotive nuance of the metaphors in conversations within and between different groups could be examined, through a more detailed analysis of evolving conversational discourse over longer time than the present quantitative approach has allowed, more on par with that of Cameron (2003).

Chapter 6. Conclusions

This thesis has examined the use of metaphors with different degrees of sedimentation and bodily motivation in spontaneous conversations of dyads of participants belonging to the same generation, or different ones. It used the Motivation and Sedimentation Model (MSM) as a theoretical framework, and was generally informed by cognitive semiotics, with its conceptual-empirical loop (see Section 2.2), given once again in Figure 9.

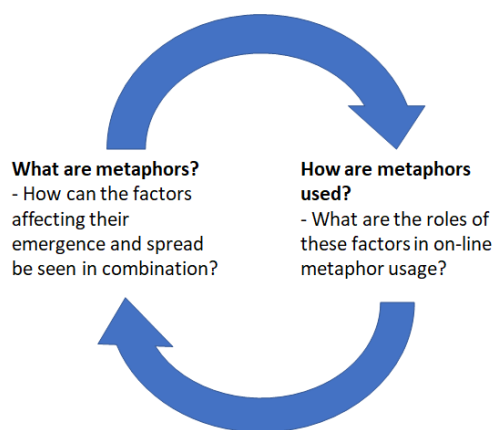


Figure 9: The conceptual-empirical loop applied to the topic of the present thesis, adapted from Zlatev (2015, p. 1058)

On the conceptual (left) side of the loop, the factors behind metaphor emergence, use and spread were conceptualized as structures and activities on three levels: the Embodied, Sedimented and Situated levels. Through a review of previous research and literature on metaphor, factors on the Embodied level were argued to motivate but not determine metaphors through bodily perceivable and thus universally shared phenomena of the lifeworld. The norms on the Sedimented level facilitate and fine-tune metaphoric communication through an inventory of socially established pairs of expressions and corresponding metaphorical categories. The Situated level is finally needed to further fine-tune the emotive and pragmatic impact of the metaphors through apprehension of the communicative context, and to provide common ground in motivating novel metaphors.

For the empirical (right) side of the loop, the respective roles of the levels in metaphor use were examined. The research-questions posed in the introduction of this thesis (Chapter 1) will here be repeated one at a time, along with answers that follow from the investigation.

- How do the three levels of MSM interrelate in governing the use of metaphors?

The Embodied level is prevalent as far as categorization and analogy making are required from all but the most sedimented (“dead”) metaphors. More specifically, given the operationalization of “embodiment” as expressions that are body-related, it was found that the factors on the Embodied level could be said to motivate some metaphors, but not a majority of them. Body-related expressions were most prominent among strongly sedimented metaphors, so that the Embodied level could mostly be seen in “co-motivation” with the Sedimented level. The most dominant factor discerned was rather the Sedimented level, particularly strongly sedimented norms, which could be seen to motivate most of the observed metaphors. Inter-generational communication was possibly aided by such strongly sedimented norms, and weakly sedimented norms saw a certain surge in the younger generation, the millennials. The relative scarcity of weakly sedimented metaphors among the older generation, the baby-boomers, could be due to the older generation’s longer use of (perhaps) once “own” metaphors, leading to these metaphors becoming strongly sedimented. Given the surprisingly low proportion of novel metaphors, the Situated level cannot be said to have played a determining role in metaphor motivation, beyond that of “tweaking” already sedimented metaphors to fit the more exact meaning to be expressed.

- How can the three different levels of MSM be discerned in actual metaphor usage?

The extensive operationalization, described in detail in Chapter 3, allowed a number of motivating structures of the respective levels to be discerned. However, bodily and normatively motivated metaphors proved to overlap to such an extent that the relative importance of the respective levels became hard to distinguish in the material. This could be taken as indicating that structures on the Embodied level have been and are extensively employed in metaphoric meaning making, both over historical time and in contemporary communication. Thus, bodily motivated metaphors may also be especially prone to sedimentation, and thereby subject to

normative, socially constructed rules and mechanisms. The Situated level could be discerned *per se*, but not as operating independently to any notable extent. Although situated norms as such are present in all communication, it seems that they will have to be made more salient in conversation to motivate metaphors on their own, i.e. without support from sedimented norms.

The three levels of MSM have thus been discerned in both theory and practice. However, a more detailed view will require more focused studies of the factors on the respective levels in relative isolation. Any such endeavor will require acknowledgement and strict operationalization of the levels, so as to be able to distinguish embodied intersubjectivity from strongly sedimented norms, or pre-established sedimented norms from ad-hoc situated norms.

- Are there considerable differences between metaphor use within and across generations?

Some differences could be seen in the usage of metaphors within and between generations, although not very remarkable ones, and not the ones expected. Communication within the younger generation employed a somewhat larger proportion of weakly sedimented metaphors, and communication between generations could be hinted to rely on strongly sedimented metaphors to a slightly higher degree than communication within generations. However, no major differences between intra- and intergenerational metaphorical communication could be shown using the present methods and operationalizations, which makes firm conclusions impossible to draw. Thus, it may be more fruitful for future studies to employ qualitative rather than quantitative methods.

Having made a full circle in the conceptual-empirical loop, what conclusions can we draw concerning metaphor theory? First, motivation from bodily knowledge and strongly sedimented norms are very frequent and often co-occurring in actual metaphor usage such as seen through the present methods. Thus, it is here argued that theories stressing either bodily or normative factors in metaphor use will have to simultaneously acknowledge and be aware of the other. Seeing to the popularity of CMT (e.g. Lakoff and Johnson 1999), as well as the here shown far-reaching influence of strongly sedimented norms, this should serve first and foremost as a call for more attention to normative factors in metaphor use. Mindful of this, MSM has been shown

to be a well apt framework, providing a holistic yet fine-grained view and acknowledgement of universal, culture-specific and context-specific dimensions of metaphor use.

Second, seeing to the methodological side, I argue it to be imperative to acknowledge, use and clarify the 1st-person perspective in metaphor identification, the 2nd-person perspective that allows the researcher to understand the intended, situated signification of each metaphor, as well as the 3rd-person perspective that allows various kinds of metaphors to be coded and quantified. Using this combination of perspectives, especially the 1st and 2nd person perspectives, it is vital to retain a strict and transparent operationalization of metaphor as a concept to give an intersubjectively valid and inter-researcher comparable picture of metaphor use, as there have been too many “grand” and speculative accounts of the phenomenon so far.

Finally, the present study has contributed to such a holistic and intersubjectively valid means of researching metaphor, through the combination of the three perspectives provided by cognitive semiotics, the explicit definition and identification-criteria of metaphor provided and aided by MSM, strict observation of linguistic normativity and transparent operationalizations. It serves as a call for, and may already provide tools for, a more nuanced view of metaphor and better comparability between different metaphor studies.

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