CHAPTER 7

The hand in figurative thought and language

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The hand is a rich source of figurative language. The paper claims that this richness has to do with the central role of the hand in human active involvement in the world. This claim fits recent developments in phenomenological philosophy, according to which cognition is based on enactive embodiment. The empirical part of the paper uses examples from Dutch and other languages, both on the lexical and the phraseological level. It turns out that most figurative uses of the words for 'hand' are of the metonymic type. Special attention is given to the target domain of numerals. Finally, it is shown that laterality plays a role: The right hand is used in figurative expressions with a positive connotation, whereas the left hand leads to expressions with a negative connotation.

Keywords: Dutch, enactive embodiment, hand, laterality, numerals

1. Introduction

The human body is a rich source for figurative thought and language, cf. Dutch *voet van de berg* 'foot of the hill', *hoofd van de school* 'head of the school', *hart van de stad* 'heart of the city', *oog van de naald* 'eye of the needle', *oor van een kopje* 'ear of a cup', *arm van een hijskraan* 'arm of a crane', *flessenhals* 'bottleneck', *groene long* 'green lung' (parks in a city), English *hands of a clock*, Indonesian *mata hari*, lit. eye of day, 'sun', etc.[1] Apparently, objects are easily compared with the human body, leading to metaphorical mappings of (parts of) the human body on (parts of) objects (mountain compared to a body, with *foot* as the lower part that supports the upper part, an organization as a body, with *head* as the leading position at the top, a city as a body, with *heart* as its centre, etc.). Besides lexical mappings, we

1. Note that some of these metaphorical uses are in their turn the source of further metaphors. In the context of traffic, some smaller parts of roads can function as 'bottlenecks', and when you just escaped from a difficult situation, you can say that you escaped through the eye of the needle.

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find grammaticalizations of body part terms into grammatical elements. In such processes, metaphor is involved as well. As has been observed for many languages, spatial prepositions are often derived from body part terms, cf. Heine (2014: 19–20): Hausa *kai* 'head' is used as a preposition 'on top of', Dhaasanac *géere* 'belly', a postposition meaning 'inside'. Helma Pasch (2014: 199) reports for Zande (Sudan) the development of body part terms to 'case meanings': "Noteworthy is the usage of the term for 'hand' to mark origin from a powerful source and the marking of the effect of an action or from an inanimate object."

The fact that the human body is as a rich source for figurative language and thought has not gone unnoticed in Cognitive Linguistics. In recent years, systematic studies on specific body parts and their typical target domains were published in volumes like Sharifian et al. (eds.) (2008), Maalej et al. (eds.) (2011), and Brenzinger & Kraska-Szlenk (eds.) (2014).[2] The theoretical framework which inspired all these studies goes back to the foundational publication *Metaphors we live by* (Lakoff & Johnson 1980), in which it is argued that image schemas like up-down, in-out, front-back, etc. "arise from the fact that we have bodies of the sort we have" (p. 14).

In fact, earlier studies on the body as a source for figurative language can be found well before 1980. I just mention de Witte (1948), who examined figurative expressions related to body parts in different languages, in particular in Dutch, Bare'e (an Austronesian language from Sulawesi), and Marind (Papua New Guinea). It is interesting to see that de Witte refers to Merleau-Ponty (1945) and other contemporary phenomenological studies who sought to overcome the Cartesian dualism between the knowing subject and known object by taking recourse to the body. The body belongs to the world but at the same time *knows* the world, not from a cognitive distance but by being in the world and dealing with the world in so far as it is relevant for its own existence, survival, and reproduction. As Wils, another Dutch linguist who was, like de Witte, familiar with phenomenology, phrased it (1965: 5): "Every meaning ascription … is based on a living and flexible dialectic between the body and the world. The thing and the world are given to me with the parts of the body itself".[3] Phenomenological philosophy and Cognitive Linguistics clearly share a similar view on meaning, although awareness of this commonality is not widespread (yet) among linguists and philosophers, as Blomberg & Zlatev (2014) have pointed out.

If we take a closer look at the literature, not all body parts receive equal attention. There are more studies on the head, eyes, heart, and liver than, say, the nose

2. For a concise overview see Kraska-Szlenk (2014).

3. "Iedere zingeving berust … op een levende en bewegelijke dialectiek tussen het lichaam en de wereld. 'La chose et le monde me sont donnés avec les parties du corps propre.'"

or kidneys. Apparently, some body parts are more productive in language than other, accordingly attracting more easily the attention of researchers than the ones who are less prominently represented in the lexicon and grammar of languages. The hands certainly belong to the productive group.

In Section 2, we will argue that against the background of recent developments in phenomenological philosophy the hand deserves the special attention it gets in the present chapter. After a short look at the hand as a target domain of conceptualization in Section 3, the main part of this chapter (Sections 4 and 5) will be devoted to the hand as a source of conceptualization (Section 4) and to numerals as a special target domain for the hand (Section 5). In Section 6, we will address the question whether there is a difference between the left and the right hand in figurative conceptualizations, and Section 7 concludes this exploration of the role of the hand in figurative language. The examples are mainly Dutch, but other languages will also be taken into consideration.

2. The special status of the hand

The main trigger for the present study was the appearance of *The hand, an organ of the mind. What the manual tells the mental*, edited by Zdravko Radman (2013). The volume contains 17 papers, written by philosophers, cognitive scientists, and artists, all arguing that the hand has a special status in human life. The volume is inspired by recent developments in phenomenology and cognitive neuroscience, labeled as embedded, extended, and enactive cognition. The latter approach in particular stresses the importance of active bodily interaction with the world, including other people, for (the development of) human cognition, see, for example Varela et al. (1991) and Stewart et al. (eds., 2010). Two of the papers in the Radman volume focus on this enactive approach, one by Shaun Gallagher ('The enactive hand') and the other by Daniel Hutto ('Radically enactive cognition in our grasp'). Gallagher opens his paper as follows (p. 209): "The enactive view of human cognition starts with the idea that we are action oriented. Our ability to make sense of the world comes from an active and pragmatic engagement with the world, along with our capacities to interact with other people". In the concluding section (p. 220) he restates this position: "The brain – it doesn't work by itself, but in a larger system that includes the hands. This makes rationality in some respects enactive or action-oriented". Hutto (2013: 233–34) underscores "the critical importance of the ways in which we use our hands … ways that some believe are responsible for enabling the emergence of other distinctive forms of human cognition, consciousness, and culture".

Departing from Radman's volume, I explored older literature and was surprised to find that there is in fact a long tradition of specific studies on the hand. A classic study is *The hand* by Sir Charles Bell (1833), a physicist, who intended to provide support for intelligent design of the universe, that is for the existence of God, by showing how sophisticated the hand is. Other general studies on evolutionary, psychological and cultural aspects of the hand are Révész (1958 [1941]), Wilson (1998), Marchand (2012), McGinn (2015) and Leader (2016).

Based on the literature just mentioned, in particular the modern enactive embodiment approach, we can infer that the hand seems to have played a central part in the origin and history of man. When mankind started to walk upright (bipedalism), two of the four limbs became free for grasping the world, carrying things, using tools, creating new things, and, last but not least, giving signals, leading to language, see, among many others, Armstrong et al. (1995), Corballis (2002), McNeill (2012), and Levinson and Koller (2014: 5).

Radman (2013) contains a few papers on gesture, but for the rest, language is remarkably absent. Gallagher (2013: 220) only hints at language with his remark that "[t[he ways that human hands are iterated in language and metaphor reveal some of our central ways of relating to others". This remark suggests that analyzing the presence of the human hand in natural languages can function as a discovery procedure for insights in the relevance of the hand in human life. The present chapter takes Gallagher's suggestion seriously by exploring the presence of the hand in figurative conceptualization of different domains.

3. The hand as a target domain

If the hand plays such a prominent role in our everyday life, one would expect that languages have a specific word for the hand. Most of them do, but some remarks are in order here. Enfield et al. (2006) have researched the conceptualization of body parts in languages of the world and found that a strictly separate word for the hand is not a universal of language. Vogiatzis (2012) points out that the Greek word χέρι (heri) "refers to both the hand and the arm", although, as he adds, it can be used for the hand on itself as well. A similar ambiguity holds for the English word *arm*, which can be used for the *arm* excluding the hand or including it. These examples show that arm, hand (and fingers) are easily conceptualized as a whole. A too strict focus on the hand, excluding arms and fingers, is not well advised, neither in linguistic nor in cognitive studies. The strong relatedness of arm, hands and fingers also explains why an expression with *hand* in one language sometimes corresponds to an expression with *arm* or *finger* in another language. For example, when somebody doesn't give a helping hand, you say in German *keine Hand*

rühren 'move no hand', and in Dutch *geen vinger uitsteken* 'reach out no finger'. A thief has "sticky hands" in Chinese and "sticky fingers" in English (Yu 2009: 130).

The English phrasal conjunction *on the one hand, on the other hand* has as a counterpart in Dutch *aan de ene kant, aan de andere kant* and in German *einerseits … andererseits*, in which *kant* and *Seite*, both meaning 'side', constitute the central parts of the expression. This comparison between three closely related languages shows that conceptualization doesn't strictly separate the forelimbs (with arm, hand, and fingers together) and the areas on both sides of the body in the reach of those limbs.

The words for the hand and its parts are not always primary words in the language, they regularly have a metonymic or metaphoric origin. According to the etymological dictionary of Dutch (Philippa et al. 2003–2009), the word *hand* itself goes back to a word meaning 'to grasp', so *hand* means 'grasper', a metonymic transfer from action to instrument. Metaphoric ways of talking about the hand and its parts can also be found. In the Andaman language (de Witte 1948: 302), the thumb is called *ön-o-bo-tabe*, which is 'head of the hand'. Here, the hand and thumb are compared with the structure of the whole body. In some languages, the hand and fingers are conceptualized in terms of family relations (de Witte 1948: 312). In Japanese, the thumb is *oya ubi*, the older finger, the small finger is *ko-ubi*, which means 'child finger', the other 3 fingers are called uncle, brother and sister.

When we want to talk in a negative way about the hands, they are compared with the feet or claws of animals, cf. Dutch *klauwen* 'claws' and *poten*, 'paws' as used in *Blijf er met je poten/klauwen van af* 'keep your claws off'. Sadikaj (2009: 222) reports that in Albanian you can say that your hands are dry, withered, when they are not fit for work anymore. Here the image of a plant is used, which withers when it gets old. According to the Philippa et al. (2003–2009), the Dutch word *nagel* 'nail' goes back to 'claw'. In reverse, when the word *nail* is used for a metal spike, we have a metaphorical transfer, based on the similarity between the finger including this particular part and a metal nail.

In Dutch the ball of the hand is called *muis*, a transfer from the animal world, cf. the English *muscle*, from *musculus*, 'little mouse'. For *palm*, the inner side of the hand, I didn't find an original meaning outside the hand domain. The name for palm tree is based on the similarity between the spread hand and a leaf of the tree.

Against the background of embodiment theory, it is somewhat surprising, that the hand is not only a source domain of conceptualization, but also a target domain. It would be interesting to study in a more systematic way in how far the body and its parts are target domains of figurative conceptualization in languages of the world. But we leave that for the future. In the next two sections, we will focus on the hand as a source domain.

4. *Hand* as a source domain

4.1 On the word level

According to Morrow (2009: 16), the *hand* lemma has a much higher frequency of occurrence than that of *heart* in the British National Corpus. He explains this higher frequency by "the fact that people are more conscious of what they do with their hands since at some level they are making decisions about how they will use their hands". Márquez Linares and Moreno Ortiz (1999: 293) call *mano* (Spanish 'hand') "un lexeme altamente productive" ('a highly productive lexeme'). In the Dutch frequency dictionary (Tiberius and Schoonheim 2014), the hand is on place 175 in a list of nearly 1000 core words. The eye is on place 270, the head on 327. Arm and finger are also in the core list (685 and 837 respectively), whereas thumb, little finger and index finger are not. These quantitative observations can be taken as a first confirmation of the special status of the hand, as argued in Section 2. It is to be expected that this general high frequency of the lemma for *hand* also corresponds with a high frequency of figurative uses.

In Dutch (and other languages), there are many morphologically complex words in which the word *hand* occurs with a figurative meaning. A few examples are the following:

- Prefixed verbs: *afhandelen* 'settle, finalize', *behandelen* 'to treat', *verhandelen* 'to trade', *mishandelen* 'to maltreat, *onderhandelen* 'to negotiate'.
- Derivational adjectives: *handzaam* 'easy to use', *handig* 'skillful', *onhandig* 'clumsy', *onhandelbaar* 'unmanageable', *handtastelijk* 'physically violent, over familiar'.
- Compound nouns: Dutch *handschoen* 'glove', *handdoek* 'towel', *handvat* 'handle, haft', *handgranaat* 'hand grenade', *handboeien* 'handcuffs', *handlanger* 'accomplice', *washandje* 'wash cloth – diminutive', English *handyman*, *handkerchief*.

In the actions, properties and objects that these verbs, adjectives, and nouns refer to, the hand is involved in different figurative ways. In *handdoek* 'towel', *hand* is used metonymically in that the hand plays a role in using the towel. *Washandje* 'wash cloth' is probably metaphorically inspired, in that the small piece of textile looks like a hand, although a metonymic aspect can also be assumed in that typically the hand is put into the cloth when using it. The adjective *handig* 'skilful' can pertain to skilful with the hand, but can also mean that someone is clever, tactful. Probably, the latter meaning developed via the former, thus starting with a restricted sense in which the hand was involved in a metonymic way ('skilful'), and from there developing a more generalized meaning ('clever, tactful').

Only on the basis of a precise description of the meaning transfers involved in each lexical item can we decide on the relative importance of metaphor, metonymy, generalization and metaphtonymy (Goossens, 1990; Geeraerts (2002).[4] The same holds for the figurative role of the hand in fixed expressions, to which we will turn now.

4.2 Target domains of hand in fixed expressions

Before we focus on Dutch, a short look at other languages illustrates the productivity of the hand in fixed figurative expressions. If we look at the German dictionary *Duden 11, Redewendungen*, which lists idioms in German, we see that expressions with *hand* covers 12 pages, the heart 5, foot 4 and mouth 3. The *Duden* dictionary lists more than 100 hand phraseologisms. The Dutch dictionary of idioms (*Van Dale idioomwoordenboek*) comments its lemma on *hand* as follows: *"Hand* is the lemma with by far the most expressions. Other body parts (*head, eye, heart*) also provide many expressions, but none of them can compete with the *hand*".[5]

Syntax is not our main focus, but taking a short look at the syntactic position in which the hand occurs in Dutch figurative expressions, we see as a dominant pattern that the hand occurs in a complement position, typically with a light verb like (the Dutch counterparts of) *be, have, take, get, hold*, etc. The hand can be the direct object of the main predicate or the complement of a preposition. Nearly all prepositions are used: *in* 'in', *op* 'on', *voor* 'before', *bij* 'near', *achter* 'behind', *met* 'with', *onder* 'under', *van* 'from', *uit* 'out (of)'. In addition, an adjective can accompany the noun *hand*, for example *vol* 'full', *leeg* 'empty', *schoon* 'clean', and *vuil* 'dirty'.

Now that a range of studies on the figurative use of body parts are available, one can start to ask the question whether general claims can be made about typical target domains for specific body parts. Heine (2014: 29) provides a table with a few generalizations: Inner organs are typically used to talk about emotions, heart and head for social relations, body and head for reference identity (the 'self'). There are two target domains in which the hand is strongly involved. 'number' (see Section 5), and 'dynamic situations', cf. Heine (2014: 27): "Certain body parts tend to be associated with specific human activities. The cognitive process concerned appears to be one where the use of the body part term is extended metonymically to express an activity typically carried out by or involving the relevant body part". Heine gives examples of English verbs: *to hand, to hand down/in/on/out/over, to handle*. He

4. For further discussion see, among many others, Barnden (2010) and Ruiz de Mendoza Ibáñez & Galera-Masegosa (2011).

5. "*Hand* is het trefwoord met verreweg de meeste uitdrukkingen. Ook aan andere lichaamsdelen (*hoofd, oog, hart*) zijn veel uitdrukkingen ontleend, maar geen enkele haalt het bij de *hand*."

also notes (2014: 27) that "certain body parts tend to be conceived as standing for or contributing towards the expression of *abstract concepts*. Body-part terms for 'hand', for example, are crosslinguistically commonly used for signaling 'possession' or 'control', cf. English *to have things firmly in the hand, It's out of our hands now*".

If we inspect the Dutch inventory of fixed expressions with hand, can we find confirmation for Heine's general claims about typical target domains? The first three domains for which quite some expressions are available are indeed the ones that Heine points out: Activity in general (or lack of activity), activity in which 'control' is involved and situations where possession plays a role:

Activity, inactivity, degree of difficulty to carry out the activity:
De handen uit de mouwen steken, lit. to stick the hands out of the sleeves ', cf. German *die Ärmeln hochkrämpeln*, lit. to roll up one's sleeves 'to start working'; *iets om handen hebben*, lit. to have something around the hands 'to have something to do'; *de handen in de schoot leggen*, lit. to put the hands in the lap 'to stop working'; *de hand ophouden*, lit. to hold up the hands 'to beg'; *bij de hand zijn*, lit. to be with the hand 'to be skilful, clever'; *daar draai ik m'n hand niet voor om*, lit. I don't turn my hand for that 'it is easy for me'.

To exercise control, have a grip on something:
De hand hebben in iets, lit. to have the hand in something 'to have influence in an event'; *in eigen hand houden*, lit. to hold in own hand 'to keep control'; *het heft in handen nemen*, lit. to take the haft in hand 'to take control'; *iets niet in de hand hebben*, lit. to have something not in the hand 'to loose control'; *uit de hand lopen* lit. to run out of the hand 'to run out of control'; *iemand de vrije hand geven* 'to give someone the free hand', i.e. not control someone else anymore. Also *de vrije hand hebben* 'to have the free hand' as a result of being given the free hand; *de teugels in de hand nemen* 'to assume the reins', image from leading the horse; *de bovenhand krijgen* 'to get the upper hand', i.e. to win; *van hogerhand*, lit. from higher hand, 'from above in a hierarchy'. The hand which is higher has more control. Control and loss of control is also part of the cultural model that Maalej (2014) proposes for Tunisian *jidd* 'hand'.

Possession, in particular money, often in relation to trade:
Iets achter de hand hebben, lit. to have something behind the hand 'to have something in reserve'; *van de hand doen*, lit. to do from the hand 'to sell'; *de hand op de zak/de knip houden*, lit. to keep the hand on the purse 'to keep a tight hand on the pursestrings'; *een gat in de hand hebben*, lit. to have a hole in the hand 'to spend money too easily'; *onder(s)hands*, lit. under the hand 'underhanded, furtively'; *handjeklap*, lit. hand-dim. clap 'be hand in glove with'. According to Talento (2014), 'possession' is the first semantic extension of Swahili *mkono* 'hand', from which other metaphors like 'control' and 'care' develop.

Not explicitly mentioned by Heine, but rather prominently present in Dutch are hand expressions which have to do with relations and interactions between people. These can take a positive or a negative turn:[6]

Positive human relations and emotions:
Zij zijn twee handen op één buik, lit. they are two hands on one belly 'they are hand and glove'; *op de hand zijn van iemand*, lit. to be on someone's hand 'to take someone's side'; *iemand op handen dragen*, lit. to carry someone on hands 'to adore someone'; *iemand een handje helpen*, lit. to help someone a hand-dim., cf. English *to give someone a hand*; *iemand bij de hand nemen*, lit. to take someone by the hand, can be used in a general sense for accompanying someone step by step, for example when you explain something in a text. *Bij iemand in goede / de beste handen zijn* 'to be in good / the best hands with somebody'. This is said when you want to reassure someone about the professionalism of someone else, typically an expert like a doctor or lawyer. The same holds for German *bei jemandem in den besten Händen sein* (cf. Staffeldt 2011). *Iemand de hand boven het hoofd houden* 'to keep your hand above someone's head', i.e. to protect that person, for example if a higher person in an organization protects an inferior person who is in danger of losing his job. Sadikaj (2009) notes that Albanian has no hand idioms in the goal domain of protection ('Schutz').

In contrast to German (*Händchen halten*), Dutch doesn't have a direct equivalent for 'holding hands' to describe an early stage of an affectionate relationship.

Negative human relations (competition, aggression, stealing)
Aan de winnende/verliezende hand zijn 'to be in the process of winning / losing'; *z'n hand overspelen*, lit. to overplay one's hand, 'to take too big risks' (rooted in playing cards); *een handgemeen hebben* 'to fight'; *je handen wassen in onschuld*, lit. to wash your hands in innocence 'to wash your hands of responsibility'. This expression goes back to the bible, where Pontius Pilate absolved himself of the ultimate treatment of Jesus. It means that you act as if you are innocent whereas you are in fact guilty. *Losse handen hebben*, lit. to have loose hands, which means easily getting aggressive; *de hand aan zichzelf slaan*, lit. to put the hand on yourself, 'to commit suicide'. According to de Witte (1948: 296), Sesoeto: *o letsoho*, lit. 'he is a hand', means 'he is a thief'. Greek has έχει μακριά χέρια, lit. he/she has long hands, 'he/she has a tendency to steal' (Ioannis Veloudis, p.c.), and if in Chinese someone is characterized as *shou-nian*, 'hand-sticky', then this means that he is 'thievish' (Yu 2009: 118).

6. Vainik (2009) zooms in on *käsi*, 'hand' in Estonian and figurative expressions, in particular those that have to do with cooperative and non-cooperative interactional behavior. Social status and physical distance turn out to be relevant parameters in a fine-grained analysis of these expressions.

Somewhat surprisingly, we also find expressions with hand which have to do with states of the individual mind, like degree of certainty (modality), source of knowledge (evidentiality) and emotions. Some examples are given below.

Certainty
When one wants to express certainty and personal guarantee for a claim or promise, one can use phrases like *De hand voor iemand in het vuur durven steken*, 'to put the hand in the fire for someone'. This goes back to the Middle Ages: If the hand didn't burn, then this was a proof. *Met m'n hand op het hart* 'with my hand on the heart' verbalizes a nonverbal 'emblem' of assurance. As Vogiatzis (2012) has shown, the target domain of certainty and assurance is strongly represented in Greek hand expressions. Besides equivalents of the Dutch expressions, Greek has *Βάζω το χέρι μου στο ευαγγέλιο* 'put my hand on the Gospel' and *ψηφίζω κάποιον και με τα δυο χέρια* 'Vote for somebody with both hands', in case you want to express your full confidence in someone.

Evidentiality
Dat ligt voor de hand, lit. that lies before the hand (German *Das liegt auf der Hand*, lit. that lies on the hand), which means that something is evident. *Iets uit de eerste hand hebben*, lit. to have something from the first hand, means that you have information from a primary source. Sadikaj (2009) found that Albanian has no literal counterpart for German *aus erster Hand*, 'first hand knowledge', and Erzse (2006) observed that Rumanian uses the expression *din prima surša*, literally 'from first source', so again no hand expression.

Emotions
Handenwringend 'hand wringing'; *De hand voor de mond slaan* lit. to slap the hand to the mouth', 'to be completely surprised'; *zich in de handen wrijven* lit. to rub one's hand 'to be content'; *zwaar op de hand zijn*, lit. to be heavy on the hand, i.e. tending to worry about things; *je mag wel in je handen knijpen* lit. you better clench your hand, i.e. you can be thankful about how things went, worse could easily have happened; *met de handen in het haar zitten*, lit. to sit with the hands in the hair, i.e. to be desperate; *in je vuistje lachen*, lit. to laugh in your fist, i.e. to have malicious delight. Baş (2015: 96) reports several Turkish idioms with *el* 'hand' referring to distress, love, respect and other emotions.

Time
Even more surprising than the eight target domains listed above are some words and expressions with *hand* which have to do with time: *Naderhand*, lit. after the hand 'afterwards', *op voorhand* lit. on beforehand 'before', *voorshands* 'in the near

future', *onderhand*, lit. under hand 'meanwhile', *hand over hand* lit. hand over hand 'increasing steadily'.[7] Van Ginneken (1939) discussed French *maintenant*, literally hand holding, meaning 'now'When spoken language developed, it referred to this gesture for referring to the present. Van Ginneken interprets the existence of *maintenant* as support for his thesis that gesture preceded spoken language. Ahn & Kwon (2007: 210) mention English *at hand*, as in: *With the final exam at hand, how can you go to the movie?* This use can be seen as a metaphorical transfer from spatial nearness (so that you can reach it by hand) to temporal (future) nearness.

This overview of hand expressions in Dutch (compared with a few observations from other languages) is not meant to be exhaustive. Besides reporting some 'default' mappings, some surprising target domains were mentioned. There remain 'loose' expressions which cannot be grouped with other expressions, like: *Aan de beterende hand zijn* 'lit. to be at the bettering hand, 'to recover from a disease'; *geen hand voor ogen kunnen zien*, lit. to see no hand before eyes, 'to have a bad view (for example because of smoke or fog)'. In Dutch, *allerhande*, lit. 'from all hands' means 'diverse', as in *allerhande producten* 'diverse products'.

5. A special target domain: Numerals

As we mentioned before, Heine (2014: 24) distinguishes numerals as one of the cross-linguistic prominent target domains for the hand: "[T]he hands and the fingers, and to some extent also feet, have been recruited in various societies to create linguistic expressions for numerals." Focusing on the hand, Heine (1997: 21) already pointed out that "the human hand provides the most important model for structuring the numeral system. Accordingly, the numeral '5' constitutes cross-linguistically the smallest recurrent base number, where 'base number' is that number from which counting starts over."

That counting is a typical target domain for the hand, is reflected in the Dutch expression *Dat is op één hand te tellen* 'That can be counted on one hand', which means that the number is low, typically lower than expected; the same in Greek: *μετρημένοι στα δάχτυλα του ενός χεριού*, lit. counted in the fingers of one hand 'very few'.

Dehaene (1997) has argued that all human beings are able to distinguish one from two objects and three from two or one. This innate ability to quantify is called 'subitizing', cf. the definition in Wikipedia: "The term is derived from the

7. This expression comes from sailing, where the crew drew the rope and put the hands one after the other on the rope, so that it gradually moved. In Dutch, many figurative expressions originated in the context of sailing.

Latin adjective *subitus* (meaning 'sudden') and captures a feeling of immediately knowing how many items lie within the visual scene, when the number of items present falls within the subitizing range".[8]

However, when the number of objects is higher than three, people are not able to subitize anymore. For precise specification with higher numbers, counting becomes necessary. As we know from the work by Everett on the language and culture of the Pirahã (cf. Everett 2012), this people hasn't felt the need to develop a counting system. In their culture, subitizing is, apparently, sufficient. But when people in certain cultures need it and start counting, then this seems only possible on the basis of the body, in particular the hand and its fingers. Maybe the fact that we have hands with an ordered set of different fingers facilitated the cultural practice of mapping a collection of individual objects onto these body parts. In other words, if we hadn't had hands, counting would not, or much less easily, have developed in various cultures.

We can imagine a scenario as follows: When people wanted to get a more precise idea about the number of objects, say animals in the context of hunting or trading, they projected each object on one of the fingers, by pointing with the right hand to the succeeding fingers at the left hand, typically starting with the small finger, going up to the thumb.

To illustrate the involvement of hand and fingers in words for numbers, a few examples of expressions from different languages are presented below.

1. little finger (cf. Majewicz 1984: 71, mono*u* in Maïpua, a Papuan language; same reference for 2 and 3)
2. the ring finger (*reere* in Maïpua)
3. middle (*kaüpu* meaning 'middle finger'and 3 in Maïpua)
4. hand minus one, small hand. In Anatolian, the word for 4 literally means 'the small hand', the hand with only four fingers (instead of five). 5 is 'the whole hand', and '10' is two hands, or right hand (Luján Martínez 1999: 207–208).
5. In Hawaiian and other Austronesian languages, the word for hand is the same as that for the number 5, *lima* (Heine 1997: Ch. 2). The American *high five* and Dutch *geef me de vijf* 'give me the five' can be seen as 'backprojections' from the number to the hand. In Spanish *manita* (diminutive of *la mano*) is used for 5, in particular in soccer, when the score is 5 goals (Gijs Mulder p.c.). Soccer players raise an open hand when this score is reached.
6. cf. the word for 'jump' in Sotho, meaning: jump over from one hand to the other (Heine 1997: 21).
7. new two (Api, cf. Heine 1997: 21)

8. http://en.wikipedia.org/wiki/Subitizing

8. two peaks. In etymological dictionaries of Indo-European languages, it is often said that *octo* is a dual form of a word which means 'peak', so eight is two peaks, i.e. twice the form of the hand without the thumb.
9. the hand spares one (Mamvu, Heine 1997: 20)
10. two hands. In etymological explanations the Latin *decem* is sometimes split in two: *de* = duo = two, and *cem* goes back to a root *kmt*, related to Greek *kata*, meaning along. So *decem* is two times along, that is two times along the hand.
20. one man (implicitly adding up hands and feet)
100. five whole persons (Mamvu, Heine 1997: 20).

Depicting numbers in writing

When societies became more complex, involving tribute and trade, keeping record of quantities became more important. But how could numbers be recorded on solid material like wood, clay tables or skin? Writing spoken words did not yet exist, so one could not write down words like *finger* or *hand*. But what one could do is depict the finger and the hand, and that is what happened. This can be seen very clearly in Roman figures for numbers: I, II, III, IV, V, X. The first three figures depict fingers, V is an open hand with all fingers together keeping the thumb separate, leading to the V form for the number five. X is seen as thumbs crossed with two full hands. This analysis of Roman written numbers is based on Cushing (1892: 297): "It seems more than probable that the figures and letters in this system, representing all numbers up to ten, at least, were selected or devised by their earliest inventors, in either deliberate or spontaneous imitation of the fingers, of, first, the left hand, then of the right, as used and seen in counting." Cushing sees the same kind of depicture in tally scoring, "a mark used in recording a number of acts or objects, most often in series of five, consisting of four vertical lines canceled diagonally or horizontally by a fifth line".[9] The same holds for Chinese and Indian-Arabic figures for numbers. In the Arabic sign 2, we can see two horizontal lines, connected as a result of quick writing, and in 3 we see 3 lines, again connected in quick writing.

Combined with pictures of objects, like animals, etc., number writing resulted in a notation that could be used for book keeping and labeling trade goods in complex societies. From this stage, writing developed further, ultimately projecting the visible signs on the syllables and sounds of the spoken word, cf. Röhr (1994: 82): "The ability to account for the storage of numerical information has always played an integral part in the evolution of different systems of writing".

9. http://www.thefreedictionary.com/tally

6. Laterality

The human body is asymmetric in most of its dimensions: the vertical dimension, the front-back dimension, and the inside-outside dimension. But in the left-right dimension, it looks rather symmetric. Expressions like o*n one hand, on the other hand*, Dutch *aan de ene kant, aan de andere kant*, and German *einerseits … andererseits*, fit this symmetry.

However, we are asymmetric in the lateral dimension as well. The heart is located in the left part of the body. The two brain parts, hands and feet are lateralized. Most people are right-handed, right-footed, and important parts of language processing take place in the left hemisphere. Interestingly, not all people are lateralized in the same way. There are left and right handers, left and right footed people (important in the context of putting together a soccer team), and there may be people where language is processed in the right part of the brain.

Thus, on closer inspection, the left-right asymmetry is a rather strong feature of our body on different levels, cf. McManus (2002) for a general overview. Publications in the journal *Laterality* deal with questions like the following: Is laterality typically human, or is it more widespread in the animal world, cf. Crow (2004). Corballis (1991) uses the phrase 'the lopsided ape' for human beings. At the same time, Wilson says (1998:151) that "we still know essentially nothing about the history of our special trait or its neurological foundations". Is laterality holistic, i.e. does left-handedness and left-footedness go hand in hand, or are they independent?

In the past, human left-right asymmetry has been explained with the heart as the ultimate cause, cf. Cushing (1892: 290): "Man the savage fends for life principally with weapons of war and the chase, of offense and defense. His heart, the most vulnerable part, is in his left side … He has naturally always carried the shield over the heart with the left arm and hand; the club, lance, or sword in the right hand." Frank Wilson (1998: 151) reports another 'story': mothers held their baby in their left arm, close to the heart, which led to a free and active right hand. In both stories, the heart is the ultimate origin of handedness.

Whatever the right story is (empirical proof will be hard to give), laterality, and more specifically handedness, has an impact on cognition, cf. Casasanto (2014: 110): "When asked to decide which of two products to buy, which of two job applicants to hire, or which of two alien creatures looks more trustworthy, right- and left-handers respond differently. Right-handers tend to prefer the product, person, or creature presented on their right side, but left-handers tend to prefer the one on their left".

Whereas on the individual level, left- or right-handedness has a differentiating cognitive impact, on the social level the dominant type counts, which is reflected

in social practices and language.[10] Sitting on the right side of someone is more honorable than sitting on the left side. In the *Credo*, a piece of the Latin mass, it is said that Jesus sits at the right side of his father (*ad dexteram patris*). Many *hand* expressions capitalize on the dominant right-handed laterality. If you call someone your 'right hand', then this means that he/she is helping you with work.[11] A sinister person is not a good person (*sinister* means 'left' in Latin). German: *Das mache ich doch mit links!* 'I can do that with left', implies that something is easy, because if you can do something with the left hand, it cannot be too difficult.[12]

The asymmetry also shows in phrases for the hand as a target. Some languages have different names for the two hands, based on what you do with the different hands or what you associate with them, cf. examples from de Witte (1948: 304):

- In Anglosaxon, the right hand is called *swiđra,* which means the 'stronger (one)'.
- Bakongo: right hand is *kooko kwalubakala* = the hand of men, that is the strong hand, left hand is *kooko kwalukento* = the hand of women. Gender differences, or more precisely cultural conceptualizations of such differences, play a role here.
- Basoeto right hand is *letsoho le letona* = the masculine hand, or *letsoho la hoja* = the hand for eating; the left hand is *letsoho le letsehali* = the female hand, or, alternatively, *letsoho la botsoara-thebe* = the hand for taking the shield.
- German has the expression *Ehe zur linken Hand*, 'marriage with the left hand', a marriage in noble circles where one of the partners, mostly the woman, comes from a family with a lower social status.
- When in Spanish the figure "zero" is on the left, it has no value; someone is *un cero a la izquierda* (a zero on the left) when his opinion doesn't count; if, when you wake up, you stand first with your left foot, this is taken as a signal that you will have a bad day: *Hoy, se levantó con el pie izquierdo* (lit. 'Today, he [woke up and] stood up on his left foot'); when someone does something well or is very skillful one says *es diestro* (right handed) (but not *es zurdo* 'left handed' to mean the opposite).

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10. Westmoreland (2016) claims that 'dexterocentrism' and 'dexteronormativity' are present in all cultures. This implies that left-handers have to adapt their behavior to a certain degree to the majority, not fitting their own cognition.

11. Chinese has the expression *zuo-you-shou*, lit. left-right-hand, meaning 'right-hand man' (Yu 2009: 115), in which the derogatory sense of 'left' apparently does not play a role.

12. Ahn & Kwon (2007: 204) discuss the example *He won the championship hands down*. They assume that an orientational metaphor 'being easy is down' plays a role here. But in this context, *down* probably means 'not active' in the first place.

Surprisingly, the connotations of the left hand are not always negative, cf. the following observation. In Spanish, it is said that someone has a left hand when he knows how to handle a difficult situation, when he knows how to be tactful or when he knows very well to treat certain people, cf. *Yo nunca podría ser maestro, porque no tengo mano izquierda con los niños* (lit. 'I could never be a a teacher, because I have no left hand with children').[13] White and Villacañas (2014: 107–108) show that this meaning comes from the Spanish experience in the world of bullfighting, where the hardest, most artistic cape pass (the so-called "pase de muleta") is performed with the left hand. It requires high skills to use the left hand in this context, which arouses people's awe. At the same time, the pass requires gentleness and delicacy to be performed correctly.

7. Conclusion

In this chapter, we have seen that the hand is a very productive source for figurative expressions. Some generalizations can be made. Firstly, the figurative expressions with *hand* are mainly metonymical in character, metaphors like the one in English *hands of a clock* are rare.

Secondly, the quantity of figurative expressions with hand is an indication that the hand does indeed play a central role in human life, or better: it is at least an indication of this importance in the past, when working with the hand was more central in everyday life than it is now.[14] Ene Vainik (p.c.) points out that in Estonian you ask 'How are your hands going' where you would say in English *how do you do*. The Estonian way of greeting is a metonymic way of asking for how the activities are going, and the activities, the doings, are, apparently, the salient aspect of the everyday life. In cave paintings (see Veloudis, this volume), the hand is, besides animals, the most often depicted figure.[15] All these observations support the claim that the hand takes a central role in the history of mankind. Thirdly, the central role of the hand fits the theory of enacted cognition, which in its turn, is in harmony with phenomenological philosophy. Woelert (2014) argues that intentionality of the human mind is based in manual technical activity and tool use. We have shown that this recent theorizing on the link between hand and mind can easily be traced back to earlier phenomenology. A famous distinction

13. Francisco Ruiz de Mendoza, personal communication

14. Of course, typing on electronic devices is a widespread activity in the modern world. But here, the fingers are more saliently involved than the hand.

15. Cf. Roebroeks (2014) on 40,000 years old cave paintings in Sulawesi, Indonesia.

in Heidegger's philosophy is that between *zuhanden* and *vorhanden*. For us, the world is primarily *zuhanden*, something that reveals itself to us by dealing with it actively, by hand. Problems in dealing with the world can lead to a step of reflective distance, a new, secondary way of being related to the world, which then becomes *vorhanden*, laying 'before us'.

This chapter only incidentally hinted at culture specificity of figurative expressions for hand. But as Yu (2009: 151) states at the end of his comparison of figurative uses of hand, finger, and palm in Chinese and English: "Only through comparative study in a systematic fashion can we map potential human universals and cultural differences accurately".

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