

Head and heart: Metaphors and metonymies in a cross-linguistic perspective

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1. Introduction

This study aims to explore the degree of translation correspondence between metonymic and metaphorical meaning extensions of the English words *head* and *heart* and the corresponding Norwegian lexemes *hode* and *hjerte*. In other words, is *head* always rendered by *hode* and is *heart* always *hjerte*? Similarly, how often does *hode* become *head* and *hjerte* become *heart* in translation? These relationships may shed light on connections between culture and the cognitive processes involved in metaphor and metonymy. This paper first discusses definitions of the terms metaphor, metonymy, and the related term metaphonymy, and then enumerates the material and methods used for the study. The discussion then examines the translation possibilities for the metonymic and metaphorical extensions of *heart* and *head*, followed by a parallel examination for the Norwegian lexemes *hjerte* and *hode*. Finally, conclusions are presented.

2. Theory

2.1 Metaphor

A traditional explanation holds that metaphor is a stylistic device whereby one object is described in terms of another; "an imaginative way of describing something by referring to something else which has the qualities you are trying to express" (*Collins Cobuild English Language Dictionary* 1992). Since the early 1980s, however, cognitive linguists have advanced the theory that metaphor constitutes much more than a simple stylistic device. Rather, metaphors pervade our everyday life, not merely in language but in both thought and action. Many concepts, especially abstract ones, are structured and mentally represented in terms of metaphor (Lakoff and Johnson 1980). Metaphor is thus not simply a

device used for mere description, but something that presents a way of actually conceiving of one thing in terms of another and is consequently an aid to understanding. As Lakoff and Johnson (1980: 6) so succinctly express it, "metaphors as linguistic expressions are possible precisely because there are metaphors in a person's conceptual system." The language we use gives us access to metaphors which structure our thought.¹

The most common sources of metaphors derive from the "basic domain of experience," meaning natural types of experience. These typically involve our bodies, our interactions with our physical environment and our interactions with other people in our culture. Of these basic domains, "the human body is consistently the most frequent source, according to an analysis of figurative language over three centuries" (Aitchison 1994: 152). One explanation for this is that in order to understand a target domain in terms of a source domain, one must have knowledge of the source domain (Lakoff and Turner 1989: 60), and every human has that necessary bodily experience.

One aspect of this study comprises a comparison of any divergent meaning extensions that have developed in Norwegian and English relating to the images of the head and heart which are evident in the gathered material, to discover whether the same types of lexicalized, or oft-called "dead" metaphors, are available in both languages. The lexicalization in the English language of conventional expressions such as "dead" metaphors is easily confirmed by a glance into almost any English dictionary, where numerous instances are revealed. Goatly (1997: 31–35) expands on the notion of "dead" metaphors by discussing the gradation of metaphorical meaning extensions as a continuum ranging from "active" to "inactive" to "dead." Of the head and heart metaphors found in the English and Norwegian original texts, most fall into the category of "inactive," and are hence perceived as polysemes with their literal correspondents. "Dead" metaphors, by contrast, would be perceived as homonyms. Only two *head* metaphors and one *hode* metaphor, further discussed in sections 5.2 and 7.2 respectively, are "active" or innovative in the sense that they must be interpreted according to the particular context in which they are found. This study should help answer whether the heart and head are equally fertile sources of "inactive" metaphors in both English and Norwegian.

A further factor in the development of both metaphors and metonymies is the influence of culture. One hypothesis holds that basic bodily experiences provide a source for conceptual metaphors, which are subsequently filtered through cultural models. The body therefore serves only as a *potential* source domain (Yu 2003: 28–29, Boers 1997: 48). Metaphors thus result from the interaction of the mind, the body, and the world (Gibbs 1997). Concepts relating to the head and heart in particular, rather than any other body part, were chosen for examination in this study because the head is an external body part and the heart is an internal organ. According to Yu (2003: 28), "from a historical point of view, the

¹ Cognitive linguists often define metaphor as "the (partial) mapping of two concepts belonging to two different knowledge domains onto each other. One concept (the target) is understood in terms of the other (the source)" (Feyarts 2000: 60).

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internal organs, compared with the external body parts, must have been subject to greater cultural diversity in the understanding of how they work and relate to each other." In the evaluation of any differences between the uses of the four words and their translations, it is therefore also interesting to discover whether any such cultural influences are to be observed in the material under study.

2.2 Metonymy

In general, metonymy has received less attention than metaphor even though Lakoff claims that it too is a basic form of cognition. Some researchers even claim that metonymy is a more fundamental cognitive process than metaphor (Panter and Radden 1999: 1). Although there exists no undisputed definition of metonymy, there is general agreement that it involves a mapping within the same experiential domain. Thus, unlike metaphor, the mapping from source to target domain occurs within one and the same cognitive domain. Whereas the principal function of metaphor is to facilitate understanding, metonymy primarily has a referential function which is conventionally expressed as a "stand-for" relationship (Lakoff and Johnson 1980: 36, de Mendoza Ibáñez 2000: 113, Barcelona 2000: 32-33).

Like metaphor, metonymy is grounded in our basic experience. One source for both metaphor and metonymy that is of particular importance to this study is that of cultural models, "presupposed, taken-for-granted models of the world shared...by members of a society and that play an enormous role in their understanding of that world and their behaviour in it" (Radden 2000: 102). One subcategory belonging to the group of cultural models is that of folk models, which are naive theories of the world. Relevant to this study are folk models of the heart as the site of emotions and the head as the site of reason.

2.3 Metaphtonymy

The definitions of metaphor and metonymy above include the term "domain," and the boundaries of any given domain are not necessarily clear. A debate has arisen in recent years concerning the demarcation between metaphor and metonymy. In other words, how can one tell when two domains are different? One hypothesis is that "every metaphorical mapping presupposes a conceptually prior metonymic mapping" (Barcelona 2000: 31). A term coined to indicate the interaction between metaphor and metonymy is "metaphtonymy" (Goossens 1995b). Although in theory metaphor and metonymy are two different processes, they are in reality often intertwined. One reason for this intertwining is the blurring of boundary lines of the domains which comprise the crucial distinction between metaphor and metonymy. It is thus perhaps more realistic to view the processes of metaphor and metonymy as one continuum, where prototypical, or pure, metaphors and

metonymies represent the outer poles. Between these two extremes lies a fuzzy middle which comprises a mixture of metaphor and metonymy (Goossens 1995b: 159–161, Radden 2000).

3. Material and method

This study examines all tokens of *head*, *heart*, *hode*, and *hjerte* in the original English and Norwegian texts of the English–Norwegian Parallel Corpus (ENPC). The corpus consists of original English texts and their translations into Norwegian, as well as original Norwegian texts and their English translations. The ENPC contains approximately 2.6 million words, taken from 100 text extracts of 10,000–15,000 words for each language. Fifty of these texts are original and fifty are translations. The corpus is further divided into two main types, fiction and non-fiction (Johansson 1998: 7–8). No distinction will be made in the paper between these two types, as no major differences in usage were uncovered.

After the literal uses were filtered out, all remaining instances of the four lexemes found were then divided into examples of either metaphorical or metonymic usage. The translations of the words were then examined to discover trends. For the purposes of this study, metonymic usage also includes cases of metaphonymy whereas metaphor refers solely to pure cases (to the extent that such is possible). The justification for this decision is that the line between metaphor and metaphonymy seems easier to demarcate than that between metonymy and metaphonymy. The only real problem caused by this artificial distinction involves the effects of the CONTAINER schema, which is discussed in sections 4.2 and 5.1. Since cognitive linguists claim that the processes of metaphor and metonymy are universal, it is of interest to discover whether the same metaphors and metonymies are available in English and Norwegian. This study examines non-literal references referring to the images of the head and heart in detail because the source domain in such cases involves body parts intrinsic to the basic bodily experiences of native speakers of both English and Norwegian. One might thus expect to find similar expressions in both languages (cf. Boers 1997: 48).

4. Heart

In the original English texts of the ENPC, a total of 90 examples of *heart* in a non-literal sense are found. 70 of these, or 78%, prove to be metonymic. The remaining 20 instances are metaphorical.

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4.1 Heart metonymy

All of the metonymies involve the folk model of the heart as the site of emotion, albeit from varying angles. This study adopts Niemeier's (2000) four headings as a means of categorizing the diverse conceptualizations of *heart*:

1. the *heart* as a metonymy for person
2. the *heart* as a living organism
3. the *heart* as an object of value
4. the *heart* as a container

Niemeier sets up these categories in such a way as to reflect the degree of connection between the metaphors and metonymies. Thus, the first category refers to the most explicit cases where there exists a clear metonymic basis. Niemeier postulates that this category of metonymy consists not of "one single, clearly delimited folk model, but rather [of] a conglomerate of different submodels." These conceptualizations range from the image of the heart as CHANGEABLE IN SIZE (eg *be big-hearted*) to the HEART AS A SOLID (eg *heart of stone*) to the visualization of the FULL OR WHOLE ENTITY OF THE HEART (eg *have no heart [for]*) (Niemeier 2000: 199-202). The second category contains cases where the metonymic basis is still clear, yet not quite as obvious as in the first grouping. This category is closely related to the first, but here the heart is no longer necessarily seen as part of a specific person, but rather as an autonomous entity involved in a part-for-whole metonymy. In the third category, the metonymic basis is even less obvious, although it is still possible to connect the metaphoric and metonymic relationships. Here, the heart is seen "...as a kind of treasure chest containing something of great value to its owner and possibly also to other people," and (unnamed) emotions are obviously involved (Niemeier 2000: 204). The fourth category contains metaphors which, at first inspection, do not seem to have a connection to any metonymy. Niemeier claims, however, that the close relationship between the CONTAINER schema and metonymy becomes evident when one considers the entire folk model underlying the expressions involved. For this study, the CONTAINER image schema is viewed as combining with the folk model of the heart as the seat of emotion, leading to the view of the heart as a container of emotions. In sum, "...the first category acts as the underlying basis for all the categories, but the further away one gets from the first category and moves towards the fourth category, the more metaphorical expressions appear and the relationship of these metaphors to a prior metonymization becomes less obvious" (Niemeier 2000: 199).

Consequently, all the *heart* metonymies culled from the ENPC have been organized according to the following groupings, presented here with examples for each heading:

1. HEART FOR PERSON

- (1) If I can *sway* no heavenly *hearts* I'll rouse the world below. (HB1)
Hvis jeg ikke kan *beherske* noen himmelske *hjerter*, vil jeg opprøre verden under. [lit: rule over...hearts]
- (2) ...but I don't *have the heart* to join him. (MA1)
...men jeg *orke*r ikke slå følge. [lit: am (not) capable of]

2. HEART FOR LIVING ORGANISM / AUTONOMOUS ENTITY

- (3) Do whatever your ingenuity and *heart* suggest. (OS1)
Gjør det som ditt skarpsinn og *sinnelag* antyder. [lit: disposition]
- (4) ...showing a hungry need that *made her heart ache* for him.. (DL2)
...og med en hunger etter å bli godtatt som *fikk hjertet hennes til å verke av medlidenhet*. [lit: made the heart (of) her to ache from compassion]

3. HEART FOR OBJECT OF VALUE

- (5) ...and *give your hearts* to Yahweh...(KAR1)
...og *bøy hjertet* til Herren... [lit: bend the heart]
- (6) It can *break your heart*. (JH1)
Det er *herteskjærende*. [lit: heartrending]

4. HEART FOR CONTAINER

- (7) "I doubt she ever *opened her heart* to anyone." (MW1)
"Jeg tviler på at hun *betrodde seg* til noen." [lit: confided herself]
- (8) ...her *heart full* of pain... (DL2)
...hun hadde *en pinefull klump i brystet*... [lit: a painful clump in the breast]

Table 1 provides a general overview of the various translations found for *heart* in its metonymic sense.² It should be noted that metonymic *heart* is only found as a noun, although it occasionally functions as the head of such adverbial phrases as *at heart* and *by heart*. The lexeme that is used in Norwegian to express *heart* in 69% of the cases is *hjerter* [lit: heart]. The next most common translation of *heart* is no translation at all, omission accounting for about 11% of the examples.

² In the tables presented in this paper, most percentages have been rounded to the nearest whole number. Only half percentages have been preserved. As a result, total percentages may not add up to 100%. Omission is presented as "Ø."

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Table 1: Heart metonymies: general overview

Translation		Tokens	% of total
Actual	Literal interpretation		
hjerte	heart	48	69%
Ø	Ø	8	11%
utenat*	out-in	3	4%
bryst	breast	2	3%
meg/seg	myself /oneself	2	3%
bunn	bottom	1	1%
klump	clump	1	1%
mot(et)	courage	1	1%
puls	pulse	1	1%
sinn	mind	1	1%
sinnelag	disposition	1	1%
ta Dem nær*	take you near	1	1%
Total		70	

* Utenat corresponds to *by heart* (RD1 and MW1).

Ta Dem nær corresponds to *take to heart* (MW1).

Apart from rendering *heart* as *hjerte* or omitting to translate it altogether, translators resort to a variety of different lexemes, depending on the context. *Bryst*, as in (8), offers an alternative when the physical location of the heart is vital to the meaning. Similarly, *puls* provides an equally adequate reference to certain physiological consequences of love, when an accelerating heart (DF1) may easily be transformed into *stigende puls* [lit: rising pulse]. In the cases involving *bunn*, *mot(et)*, *sinn*, and *sinnelag* (3), the Norwegian translations offer a less metonymical means of expressing the same semantic content. The lexeme *hjerte* would also have been an appropriate choice for translation in nearly all instances.

An interesting phenomenon comes to light when one investigates the pattern of distribution in the four metonymic categories of the various Norwegian expressions used in translation. Such an overview is provided in Table 2. From the figures presented here, it appears that the choice of translation is not entirely random. In the most clearly metonymic category, HEART FOR PERSON, *hjerte* is chosen as an equivalent for *heart* in about 91% of all cases, and the sole alternative offered is omission. The percentage decreases to 79% of all examples of the second category, further declines to 70% in the third category, and finally drops to 40% in the least metonymic category, that of HEART FOR CONTAINER. Moreover, several different expressions are presented as translation alternatives in the last three categories, indicating a wider choice of expressions available to translators.

Table 2: *Heart* metonymy categorizations, 70 cases total with vertical percentages

Translation	Person		Living organism		Object of value		Container	
	10	91%	23	79%	7	70%	8	40%
hjerte			3	10%	1	10%	3	20%
Ø	1	8%	1	3%			1	5%
bryst			1	3%				
puls			1	3%				
sinnelag					1	10%		
klump					1	10%		
mot(et)							3	20%
utenat							2	10%
meg/seg							1	5%
bunn							1	5%
sinn							1	5%
ta Dem nær					10		20	
Total	11		29					

The figures presented here indicate that the more metaphorical the expression involving *heart* becomes, the more leeway there is in translation. Cognitive linguists maintain that both metaphor and metonymy are subconscious and pervasive processes. The process of translation is similar, at least for a professional translator who does not have to stop and ponder each word but can usually proceed on automatic. It is thus noteworthy that most translators subconsciously choose not to deviate from *heart/hjerte* in the great majority of purely metonymic instances, but feel freer to do so as the metonymic basis of an expression becomes more distant.

4.2 *Heart* metaphors

Twenty cases of pure metaphor involving *heart* are found in the ENPC. Only one metaphor is utilized in all twenty cases, that of HEART IS THE CENTER. Some examples from the corpus:

- (9) Mayfair's village *heart* is Shepherd Market. (SUG1)
Hjertet i bydelen Mayfair er Shepherd's Market. [lit: the heart]
- (10) "The sad paradox at the *heart* of child labour is that it perpetuates poverty..." (LTLT1)
 "Det triste paradokset som er *kjernen* i barnarbeidet, er at slike arbeid viderefører fattigdommen..." [lit: the core]

Table 3 provides an overview of the range of lexemes found in the corpus to express this metaphorical sense of *heart*. The most common means of translation is *hjerte*, in 55% of all

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instances. Seven other expressions are also found in the corpus to convey an equivalent meaning, the most popular of which is *kjerne*, as in (10).

Table 3: Heart metaphors: HEART IS THE CENTER

Translation		Tokens	% of total
Actual	Literal interpretation		
hjerte	heart	11	55%
kjerne	core	3	15%
bak alt dette*	behind all this	1	5%
dyp(et)*	depths	1	5%
grunnleggende spørsmål	fundamental question	1	5%
midt inne*	middle in	1	5%
sentrum	center	1	5%
tyngdepunkt	center of gravity	1	5%
Total		20	

* *Bak alt dette* corresponds to *at the heart of the matter* (TH1).

Dyp(et) corresponds to *deep inside the heart of [Britain's Labour Party]* (FF1).

Midt inne corresponds to *at the heart* (JC1).

Comparing these figures to those for the metonymic *heart* expressions, we find that the lexeme *hjerte* is chosen less often in metaphorical expressions than in metonymic ones, 55% versus 69%. This agrees with the tentative conclusion that there is an inverse relation between the frequency of the choice of *hjerte* and the degree of metaphorization (i.e. the more metaphorical the concept, the less often the lexeme *hjerte* is chosen as an equivalent). However, in the breakdown of metonymic expressions by category seen in Table 2, we also find that *hjerte* is employed in a mere 40% of the examples in the fourth category which is furthest removed from its metonymic basis. This figure is substantially less than the 55% of the metaphorical expressions. One possible explanation for this discrepancy is that the metaphorical nature of the fourth category, HEART FOR CONTAINER, is much more pervasive than Niemeier makes out, despite its putative metonymic connections. This would result in a correspondingly greater opportunity for choice when translating *heart* in these instances.

5. Head

127 examples of the metonymic or metaphorical use of *head* were culled from the ENPC. However unlike metonymic and metaphorical *heart*, the lexeme *head* may function as a noun, a verb, an adjective, or the head of an adverbial phrase. Instances of nominal *head* predominate in the corpus, with 44 metonymic and 40 metaphorical expressions noted.

Although this study focuses on the nominal uses of *head* for the purposes of contrast and comparison with *heart*, it is noteworthy that all other uses of *head* from the original English texts of the ENPC are metaphorical in nature, relating to the concept of the head as being the top or most important part of the body.

5.1 *Head* metonymy

40 of the 44 *head* metonymies found revolve around the folk model of the head as the site of reason or thought. The remaining four involve the PART FOR WHOLE metonymy, sometimes referred to as synecdoche. These 44 metonymies were first placed in one of three categories:

1. HEAD FOR PERSON (the PART FOR WHOLE synecdoche)
2. HEAD FOR REASON / EMOTION
3. HEAD FOR CONTAINER

The categorization employed here of the *head* metonymies is not as complex as the *heart* metonymy groupings, but it too reflects the widening connection between the categories and their metonymic bases. The first category is the most obviously metonymic one, the second is slightly less so, and the third is much more metaphorical than the others. Parallel to the HEART FOR CONTAINER examples, the HEAD FOR CONTAINER examples all involve the folk model of the head as the site of reason or thought. Whereas the heart serves as a container for emotions, the head serves as a receptacle for thoughts or images. Examples for each category follow:

1. HEAD FOR PERSON

- (11) ...if they had actually reduced military spending per *head* of population... (CS1)
 ...hvis de hadde redusert det militære forbruk pr. *innbygger*... [lit: inhabitant]
- (12) In the 37 poorest countries of the world, spending per *head* on education has been cut by a quarter during the 1980s... (LTLT1)
 I verdens 37 fattigste land er undervisningsbudsjettene blitt skåret ned med en firedel i løpet av 1980-årene... [Ø translation]

2. HEAD FOR REASON

- (13) Marie-Louise had a good hard Norman *head* on her shoulders... (RDA1)
 Marie-Louise var utstyrt med sunt, normannisk *veft*... [lit: sense, wits]

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- (14) What else, if I were sensible, if I were to obey both *head* and heart, could I offer him but my Yes? (ABR1)
 Hva annet kunne jeg gjøre hvis jeg var fornuftig, hvis jeg skulle følge *hodet* og hjertet mitt, enn å gi ham mitt Ja? [lit: the head]
 NB: Note also the *heart/hjerte* correspondence here.

3. HEAD FOR CONTAINER

- (15) I've practically got a computer inside my *head*. (RD1)
 Jeg har faktisk an liten datamaskin her inne i *hodet*. [lit: the head]
- (16) "When Harriet's got an idea into her *head*, then you can save your breath." (DL1)
 "Når Harriet har satt seg noe i *hodet*, kan man spare seg for å si noe." [lit: the head]

The most common translation of *head* is *hode*, with a frequency of 63%. Five other lexemes are chosen, but much less frequently than *hode*. *Innbygger* is found in roughly 7% of the cases but only in the context of *per head*, as in (11). A correspondence between *head* and *hals* is limited to one very specific context, the expression *scream her head off*, translated as *skrike av full hals* [lit: scream of full throat] found in text MW1. *Ham*, *vett* (13), and *besinnelse* are found in only one instance each. Omission is preferred above any translation alternative other than *hode*, with a frequency of 21%.

The 63% correspondence between *head* and *hode* does not, upon first inspection, seem remarkably different from the 69% correspondence between *heart* and *hjerte* calculated in Table 1. Yet when the pattern of distribution in the three groupings for *head* metonymies is made explicit, as in Table 4, then some marked differences emerge.

Table 4: *Head* metonymy categorizations (nominal use only), 44 cases total with vertical percentages

Translation		Person		Reason / Emotion		Container	
Actual	Literal interpretation						
hode	head			6	50%	21	78%
innbygger	inhabitant	3	75%	3	25%	5	18%
Ø	Ø	1	25%	1	8%		
besinnelse	composure, senses			1	8%		
hals	throat			1	8%	1	4%
vett	sense, wits						
ham	him						
Total		4		12		27	

In the first and most metonymic category, HEAD FOR PERSON, *hode* is not presented as a translation option at all. The *head/hode* correspondence increases greatly, to 50%, in the second category (as in (14)). The only other alternatives presented are *besinnelse*, *vett* (13), *hals* and omission. The last category of HEAD FOR CONTAINER displays a considerable

increase in the tendency to translate *head* with *hode* to 78%, as illustrated in (15) and (16). Here, the only other options chosen are *ham* in one instance and omission in five cases. In other words, the choice for translation of *head* seems to narrow to favor *hode* as we move further from the category with the clearest metonymic basis.

It is clear that the 27 HEAD FOR CONTAINER metonymies with their 78% correspondence between *head* and *hode* distort the overall 63% *head/hode* correspondence. Leaving the HEAD FOR CONTAINER metonymies out of consideration, the correspondence between *hode* and metonymic *head* drops to only 37.5%. In other words, in areas involving the *head* metonymy without the CONTAINER schema, Norwegians prefer a wording without the lexeme *hode* in more than half of all instances. These findings are in direct contrast to the tendencies displayed by the *heart* metonymies where it is theorized in section 4.1 that the CONTAINER schema contributes to a lowering of the *heart/hjerte* correspondence.

One potential explanation is related to the very nature of heads and hearts. A head, used here in its prototypical sense, is easily viewed as a container because it is an external body part. Its form and size suggest the idea of a container, and this image is reinforced every time we put food or drink into the head's main orifice, the mouth. This image seems equally strong in the mindsets of native speakers of both English and Norwegian. *Head/hode* is consequently an efficient way of expressing the HEAD FOR CONTAINER relationship. The heart, by contrast, is an internal, body organ. Most people must simply imagine what it actually looks like, and for this reason it is perhaps more difficult to picture the heart as a container. The folk model of the heart as the site of emotions does nevertheless allow for the metonymy of the heart as a container, yet judging from the samples in the original English texts of the ENPC, this particular extension of the *heart* folk model seems to be much more pervasive in the minds of native English speakers. Norwegians are equally content with other means of expressing the HEART FOR CONTAINER metonymy. Consequently, the pull of the CONTAINER image schema seems to work in different directions when it comes to the translation of *heart* and *head* into Norwegian. The strong metaphorical roots of the CONTAINER schema seem to allow for greater choice in the translation of *heart*. By contrast, the CONTAINER schema has the opposite effect in the translation of *head*, where the metonymic connection appears to override the metaphor, leaving *hode* as almost the only viable option.

5.2 Head metaphors

Forty examples illustrating the metaphorical usage of *head* are found in the ENPC. Unlike the *heart* metaphors which all revolve around a single image, the head serves as the source for three separate images. Common to all three metaphors, however, is the superimposition of the image of the head as the top and most vital part of the physical body on something belonging to another domain. The different metaphors are listed below, with examples:

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1. HEAD IS TOP OF AN ORGANIZATION

- (17) ...who was *head* of the team of space biologists. (JL1)
Han var på den tiden *leder* for teamet av romfartsbiologer. [lit: leader]
- (18) I'm *head* of the household. (ST1)
Jeg er familiens *overhode*. [lit: over-head]

2. HEAD IS TOP OR MOST IMPORTANT PART

- (19) He walked over to the radiator and patted it on the *head*.
Han gikk så bort til en radiator og klappet den på *hodet*. [lit: the head]
- (20) She sat there at the *head* of the table... (DL1)
Hun satt der for *enden* av bordet... [lit: the end]

3. HEAD IS TOP PART OF A PLANT

- (21) ...and fringed by a golden haze of reeds, their lumbered *heads* straining in the wind.
(PDJ3)
...og var kantet med slør av siv som bøyd sine tunge *aks* i vinden. [lit: ear (of grain)]
- (22) "They were white geraniums and they poked their *heads* through the iron framework."
(MW1)
"Det var hvite geranier, og de stakk *hodene* ut gjennom jernrammen. [lit: the heads]

Table 5 provides an overview of the Norwegian lexemes used in the translation of the metaphorical sense of *head*. Perhaps the most striking feature of the table is the sheer variety of words chosen by translators, with *hode* only the fourth most common at 7.5% of all examples. This percentage is at odds with the 63% correspondence between *hode* and the metonymic sense of *head*, indicating that translators have much greater choice as the expression becomes more metaphorical. The 7.5% figure also contrasts with the 55% correspondence between *hjerte* and the metaphorical sense of *heart* calculated in Table 3. These percentages imply a distinction in the Norwegian translations of metaphorical *head* and *heart* in that translators seem to subconsciously allow themselves much greater choice when presented with the lexeme *head* than with *hjerte*.

Table 5: *Head* metaphors, nominal usage only

Translation		Tokens	% of total
Actual	Literal interpretation		
sjef	chief, boss	18	45.0%
leder	leader	6	15.0%
ende	end	5	12.5%
hode	head	3	7.5%
overhode	over-head	2	5.0%
øverst*	on top, at the top	2	5.0%
aks	ear (of grain)	1	2.5%
minister	minister	1	2.5%
først*	first	1	2.5%
hel*	whole	1	2.5%
Total		40	

**Øverst* corresponds to *at the head* (AH1 and RD1).

Først corresponds to *at the head of it* [the table] (RR1).

Hel corresponds to *heads of* [garlic] (PM1).

Although Table 5 provides an overview of the Norwegian expressions used in translation, the choice is obviously highly dependent on context, and more specifically, upon the metaphor category. Table 6 thus displays the pattern of distribution of the Norwegian lexemes according to category of metaphor.

Table 6: *Head* metaphor: categorization of sense, 40 cases total with vertical percentages

Translation	Top of an organization		Top or most important end		Top part of a plant	
sjef	18	67%				
leder	6	22%				
overhode	2	7%				
minister	1	4%				
ende			5	50%		
hode			2	20%	1	33%
øverst			2	20%		
først			1	10%		
aks					1	33%
hel					1	33%
Total	27		10		3	

Here we see that there is no *head/hode* correspondence in the first category. Rather, translators rely on a number of ways to convey the sense of being in charge, with *sjef* and *leder* predominating. Although HEAD IS TOP OF AN ORGANIZATION is a metaphor

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involving two domains, the "head" referred to is a person. Therefore, this metaphor also connotes the HEAD FOR PERSON metonymy, a category which also displays a lack of correspondence between *head* and *hode* (Table 4). As a consequence, the ENPC evidence from the original English texts provides testimony that the Norwegian language does not employ the image of the head to refer to people.

Hode is found as a translation alternative in only three instances, (19), (22), and

- (23) ...when in the street, he might pat the *heads* of water-hydrants and parking-meters, taking these to be the heads of children... (OS1)
 Når han var på gaten, kunne han klappe brannhydranter og parkometre på *hodet*... i troen på at det var barnehoder. [lit: the head]

In (19) and (23), the prototypical image of the head is superimposed on the rather unusual objects of radiators, hydrants, and parking meters. Because of this odd superimposition, it is not surprising that translators choose to simply preserve this image by choosing *hode*. Indeed, such personification is reinforced in (23) by the comparison to children's heads. All of the remaining examples of the second category of metaphor revolve around the image of the "head" of a table, where Norwegian has a lexicalized alternative to *hode*. In sum, it seems that except in cases where there is an oddball superimposition of *head* as in (19), personification by other means as in (23), or reference to the HEAD IS TOP PART OF A PLANT metaphor as in (22), then Norwegians choose some means other than *hode* of expressing the metaphorical sense of *head*. Thus, the metaphorical use of *head* which seems to be so pervasive in English, appears to be rarer in Norwegian.

6. *Hjerte*

A total of 48 instances of *hjerte* employed in a non-literal sense are found in the original Norwegian texts of the ENPC. Only two of these cases involve metaphorical usage, the large majority being metonymic.

6.1 *Hjerte* metonymy

The headings developed by Niemeier (2000) to categorize metonymic uses of the English lexeme *heart* prove equally useful in grouping the Norwegian metonymic instances of *hjerte*. Examples follow.

1. HEART FOR PERSON

- (24) Bak skinnjakken min hamret et lykkelig *hjerte*. (LSC2)
 Behind my leather jacket hammered a happy *heart*.

2. HEART FOR LIVING ORGANISM / AUTONOMOUS ENTITY

- (25) Det den unge mannen forteller, får *hjertet* til å slå raskere. (JW1)
What the young man has to say makes my *heart* beat faster.

3. HEART FOR OBJECT OF VALUE

- (26) Han drager avgårde med mitt lille *hjerter* i hendene. (CL1)
He goes away with my little *heart* in his hands.

4. HEART FOR CONTAINER

- (27) Ordene hans hadde sunket dypt inn i Tordensønnens *hjerter*. (SH1)
His words had sunk deep into Son-of-Thunder's *heart*.

40 of the 46 examples found in Norwegian texts (87%) are translated as *heart*, which is rather higher than the 69% *heart/hjerter* correspondence discussed in section 4.1. Although five other expressions are also represented as translations (as opposed to ten alternatives in addition to *hjerter* in Norwegian for the lexeme *heart*), they account for only one instance each. Additionally, the phrase involving the heart metonymy is omitted in one case. Table 7 provides an overview of the English translations for *hjerter*, broken down according to their distribution in the four categories of metonymy. Like the English lexeme *heart*, metonymic *hjerter* appears in the ENPC in the nominal function only. It is evident once, however, as part of the adjectival compound *hjertervarme* [lit: heart-warm] and once in its nominal counterpart *hjertervarme* [lit: heart-warmth]. Both instances involve the HEART FOR PERSON metonymy.

Table 7: *Hjerter* metonymy categorizations, 46 cases total with vertical percentages

Translation	Person		Living organism		Object of value		Container	
heart	6	86%	20	100%	4	57%	10	83%
chest							1	8%
inside*	1	14%			1	14%	1	8%
mind					1	14%		
most longed-for*								
truthfully*					1	14%		
Ø							12	
Total	7		20		7		12	

* *Inside* corresponds to *om hjertet* [lit: about the heart] (EHA1).

Most longed-for corresponds to *lå hjertet nærmest* [lit: lay the heart nearest] (KB1).

Truthfully corresponds to *med hånden på hjertet* [lit: with the hand on the heart] (KB1).

Head and heart

Although there are fewer examples of metonymic sense of *hjerte* evident in the original Norwegian texts than metonymic *heart* in the original English texts, the pattern of distribution between the four categories of metonymy is alike in terms of percentages. Perhaps most noteworthy is the full *hjerte/heart* correspondence for the HEART FOR LIVING ORGANISM metonymy. Although only 8 of the 29 instances of the LIVING ORGANISM metonymies uncovered in the original English texts refer to the heart's physiological reactions due to strong emotions, all but three of the twenty Norwegian examples do so, as in (25). Consequently, a possible explanation of this complete correspondence may lie in the similarities between such perhaps imagined reactions and the actual reactions of the heart caused by physical exertion. Furthermore, although the *heart/hjerte* correspondence in the original English HEART FOR CONTAINER examples is relatively low (40%), the Norwegian CONTAINER examples show a rather high 83% *hjerte/heart* correspondence. The original Norwegian examples therefore confirm that the CONTAINER image schema is indeed an active source for heart metonymies in Norwegian, but the translation correspondence figures suggest that this image is more fertile in the English language.

6.2 *Hjerte* metaphors

Only two cases of pure metaphors incorporating the lexeme *hjerte* are found in the original Norwegian texts in the ENPC. Both employ the metaphor of HEART IS THE CENTER, hence the same metaphor evident in the examples of *heart* discussed in section 4.2. Moreover, both instances are translated by the lexeme *heart*. The *hjerte/heart* translation correspondence is consequently 100%. One example suffices:

- (28) Mitt første møte med det afrikanske polygamiet var i Muranga, *hertet* av kikuyuenes land. (TB1)
The first time I came across African polygamy was in Muranga, in the *heart* of Kikuyu country.

Because the sample is so small, this full correspondence cannot be treated as statistically significant. Yet the paucity of examples of metaphors involving *hjerte* is in itself striking. By contrast, the original English texts yielded twenty instances, ten times as many as the Norwegian texts. As 55% of these twenty examples was translated by the lexeme *hjerte*, it is clear that the heart functions as a source domain in Norwegian. Nevertheless, the scarcity of examples found in the original Norwegian texts attests to the possibility that such metaphorical usage may be uncommon.

7. *Hode*

In the original Norwegian texts of the ENPC, there are 59 examples of the lexeme *hode* used in a non-literal sense. 51 of these cases involve metonymies and the remaining 8 are metaphorical. Unlike the English lexeme *head*, there are no recorded instances of *hode* used as either an adjective or a verb. Although *hode* was found to be an element in many compound nouns, it is employed in a literal sense in all but one word, *hoderegning* [lit: head arithmetic] (HW2).

7.1 *Hode* metonymy

The 51 *hode* metonymies could be divided into the same categories as those developed for the *head* metonymies in section 5.1. 48 of these metonymies revolve around the folk model of the head as the seat of reason, whereas the remaining 3 involve the PART FOR WHOLE synecdoche. Examples follow:

1. HEAD FOR PERSON

- (29) *Hodet* fortsatte å se på meg, ... (LSC2)
The *head* continued looking at me.

2. HEAD FOR REASON/EMOTION

- (30) *Hodet* mitt kom på gli, det seilte gjennom en høstlig skog, full av farger og fugler. (LSC2)
My *mind* got going and sailed through an autumnal forest full of colors and birds.

3. HEAD FOR CONTAINER

- (31) Ordene kvernet rundt i *hodet*. (MN1)
The words whirled around in my *head*.

Head is the most common translation for *hode*, found in 74.5% of the recorded instances. The other six alternatives are chosen much less frequently than *head*, the second most common being *mind* in 12% of the cases, as in (30). Other choices include *brain* and omission, both in 4% of the recorded examples. The lexemes *soul*, *heart*, and *imagination* account for one instance each. Table 8 reveals the pattern of distribution of the ENPC examples according to metonymy category.

Head and heart

Table 8: *Hode* metonymy categorizations (nominal use only), 51 cases total with vertical percentages

Translation	Person		Reason / Emotion		Container	
	Count	Percentage	Count	Percentage	Count	Percentage
head	2	66%	9	69%	27	77%
soul	1	33%			1	3%
Ø			1	8%	4	11%
mind			2	15%		
heart			1	8%	2	6%
brain					1	3%
imagination					35	
Total	3		13			

Head is clearly the most common choice in all three groupings. The 66% correspondence in the HEAD FOR PERSON category represents the greatest deviation from the original English examples, where *hode* is not included as a translation option at all in the PERSON metonymies. The tendency to translate *hode* as *head* increases slightly to 69% in the REASON/EMOTION metonymies, which is greater than the comparable 50% correspondence calculated for the material from the original English texts. Yet as was the case with the English instances, the tendency to translate *hode* as *head* increases as the category becomes less metonymic. Thus the choice for translation for *hode* narrows even further to 77% in the most metaphorical category of HEAD FOR CONTAINER. The high overall *hode/head* correspondence of 74.5% can be attributed to a general tendency to translate *hode* by *head* in all three metonymic categories. These results contrast with the *head/hode* translation correspondence discussed in section 5.1, where the overall 63% correspondence is primarily attributable to those cases incorporating the folk model of the head as the site of reason, and most particularly to those instances involving the CONTAINER image schema.

7.2 HODE metaphors

There are only eight instances in the ENPC Norwegian original texts where *hode* is used in a metaphorical sense. *Head* is found to be the most common translation alternative at a frequency of 62.5%, accounting for 5 of the 8 instances. *Head* is omitted in translation in one case, and rendered as *around* and *upside down* in the remaining two cases.

Hode serves at the source for the same three images evidenced in the original English material. The breakdown of the distribution pattern for the Norwegian metaphors is presented in Table 9.

Table 9: *Hode* metaphor: categorization of sense, 40 cases total with vertical percentages

Translation	Top of an organization	Top or most important end		Top part of a plant	
head		2	40%	3	100%
around*		1	20%		
upside down*		1	20%		
Ø		1	20%		
Total	0	5		3	

*Both *around* and *upside down* correspond to part of the expression *snudd på hodet* [lit: turned on the head] (JG1 and CL1).

Perhaps most noticeable is the complete absence of the HEAD IS TOP OF AN ORGANIZATION metaphor, which is evident in 27 of the 40 original English examples. The material from the original Norwegian texts suggests that, contrary to the speculation offered in section 5.2, the head may indeed function as the source of a HEAD FOR PERSON metonymy in Norwegian (as shown in Table 8). Yet this usage is seldom in evidence, and never so when the TOP OF AN ORGANIZATION metaphor is involved. In the second category of HEAD IS TOP OR MOST IMPORTANT END, the *hode* material contains three separate metaphors. One example (MN1) refers to a spearhead, a metaphor which is standard in English. Two others, (JS1) and (HW2), involve the image of a head above water as a metaphor for survival (or lack thereof), another conventionalized expression in English. The final two examples, however, contain the expression *å snu X på hodet* [lit: to turn X on the head], which is not expressed in English by a phrase involving the lexeme *head*, as in the following:

- (32) Da hun ikke fikk noe svar, *smudde* hun *setningen på hodet* og sa... (JG1)
As she got no answer to this, she *turned the sentence around* and said...

På hodet is translated as *around* in (32), and as *upside down* in (CL1). Thus, here is a *hode* metaphor which apparently has no corresponding head metaphor in English.

The third metaphor category, HEAD IS TOP PART OF A PLANT, exhibits full translation correspondence between *hode* and *head*. Two of the three examples refer to flowers, whereas the third is somewhat unusual:

- (33) Likevel ser vi at mange av 1814-generasjonen var sterkt påvirket av sagatradisjonen om Trondheim som Norges "*hode*" i tida før reformasjonen. (JS1)
However, we find that many of the 1814 generation were very influenced by the saga traditions about Trondheim being the "*head*" of Norway in the period before the time of Danish supremacy (1450-1814).

Two metaphors are apparent in (33). The country of Norway is compared to an organic entity, and it is this "plant" which has a "head." The use of quotation marks in the example may indicate the the first metaphor involving Norway and a plant is innovative or "active."

8. Conclusion

Table 10 presents an overview of the findings concerning the *heart/hjerte* and *head/hode* translation correspondences.

Table 10: Overview of translation correspondence

Original	Translation	Metonymies		Metaphors		Total	
heart	hjerte	48 of 70	69%	11 of 20	55.0%	59 of 90	66.0%
hjerte	heart	40 of 46	87%	2 of 2	100.0%	42 of 48	87.5%
head	hode	27 of 43	63%	3 of 40	7.5%	30 of 83	36.0%
hode	head	38 of 43	88%	5 of 8	62.5%	43 of 51	84.0%

The percentages in Table 10 represent the figures for the one-way correspondences from English to Norwegian and vice versa. The calculation of the mutual correspondence (MC) for each pair of lexemes, however, is helpful in determining the extent to which *head/hode* and *heart/hjerte* are perceived as translation equivalents. The MC represents the frequency with which the lexemes are translated into each other and is calculated using the formula $(At+Bt) \times 100 / (As+Bs)$. Here, As and Bs represent the compared items in the original texts and At and Bt represent the compared lexemes in the translations (Altenberg 1999: 254). An MC greater than 50% may be considered as "fairly high" (Altenberg 1999: 262).

The *head/hode* MC is 54%, a figure which indicates that the two lexemes are felt to be translation equivalents in many circumstances. Yet this translation correspondence is asymmetrical, as the metonymic and metaphorical usages of Norwegian *hode* are translated in English *head* more than twice as often than the other way around (84% versus 36%). As a result, whereas *head* is often the preferred translation for *hode*, the opposite may not hold true.

Norwegian *hjerte* is also translated by English *heart* (87.5%) more often than *heart* is translated by *hjerte* (66%). Although the difference between the two percentages is marked, it is not as large as that associated with *head/hode*. The MC between the two lexemes is a rather high 73%, pulled up by the very high 87.5% *hjerte/heart* correspondence evident in the original Norwegian texts. There can be no doubt that *heart* and *hjerte* are translation equivalents in most circumstances. Especially when translating from Norwegian into English, *heart* is by far the preferred choice.

This study shows that some of the same metaphors and metonymies are indeed available in both Norwegian and English. *Hode* and *hjerte* may serve as source domains in Norwegian, just as *head* and *heart* may in English. This is perhaps not surprising, as the two languages are so closely related. What might be seen as less obvious, however, is that *heart* and *hjerte* are not polysemous in the same ways as *head* and *hode*. More specifically, it appears that there exists an inverse relationship between the frequency of the choice of *hjerte* in translation from English to Norwegian and the degree of metaphorization. When a concept is obviously metonymic, then *heart* will tend to be rendered by *hjerte*. As the

expression becomes more metaphorical, then translators seem freed from the necessity of choosing the lexeme *hjerte* in translation. The CONTAINER image schema has the peculiar effect of lowering the *heart/hjerte* translation correspondence even further. The Norwegian language simply does not employ the heart metaphor to the same degree as English, even though the heart metaphor is readily accessible (i.e. "inactive") in Norwegian. Such a conclusion is supported by there being so few metaphors involving *hjerte* found in the original Norwegian texts.

The lexeme *head* is treated very differently from *heart* in translation to Norwegian. Most of the metaphorical extensions of *head* are replicated in Norwegian as *hode* only in exceptional circumstances. Comparison of the examples taken from the original Norwegian texts with those from the original English texts, however, reveal that the inventory of "inactive" or lexicalized *head* metaphors available in the two languages differs only in certain areas. The material gathered from the ENPC reveals that the English language employs certain head metaphors, most notably HEAD IS TOP OF AN ORGANIZATION, which are not natural in Norwegian. Others, for example the HEAD IS TOP PART OF A PLANT metaphor, seem to be common to both languages. Only one Norwegian head metaphor found in the ENPC, involving the expression *å snu X på hodet* [lit: to turn X on the head], seems to be unavailable in the English language. Consequently, although the head metaphor is "inactive" in many circumstances in Norwegian, the head appears to be the source of more metaphorical images in English, particularly when the target domain is the person as a whole. Furthermore, the frequency of head metaphors appears to be greater in English. More nominal metaphorical expressions involving the image of the head are found in the original English texts (83) than in the comparable Norwegian texts (51). Moreover, the lexeme *hode* seems to be less versatile than *head*, as its metaphorical extensions are limited almost exclusively to the nominal function. The word *head*, by contrast, also appears in many adjectival and verbal constructions such as *head nurse* and *to head up* which involve the head metaphor.

The correspondence between metonymic uses of *head* and *hode* is only slightly less frequent than the parallel correspondence between *heart* and *hjerte* in the original English texts, but closer examination reveals that the underlying reasons are quite different. The 69% overall *heart/hjerte* correspondence occurs *in spite of* the low 40% translation correspondence surrounding the CONTAINER schema. The HEART FOR CONTAINER metaphonymy is also evident in 12 of the original Norwegian examples, but with the significantly higher *hjerte/heart* translation correspondence of 83%. Therefore, the HEART FOR CONTAINER metaphonymy seems more pervasive in the minds of native English speakers. By contrast, the 63% *head/hode* correspondence is so high chiefly *because of* the effects of the CONTAINER schema. The CONTAINER image schema also provides the source for the majority of head metonomies uncovered in the original Norwegian texts, 77% of which are translated with the lexeme *head*. In expressions where the head is referred to as a receptacle for thoughts and/or images in either language, then *head/hode*

becomes the most preferred choice in translation. These findings indicate that the HEAD FOR CONTAINER metaphonymy appears equally strong in both languages.

One question that researchers have raised is whether basic bodily experiences are interpreted differently by different cultures, and whether these experiences are filtered differently through cultural models before being rendered into language. The findings gleaned from this study indicate that the minds of both Norwegian and English speakers are indeed "embodied." The basic bodily experiences tied to *heart/hjerte* are interpreted and expressed fairly similarly in both languages. The one major disparity concerns the frequency of the metaphorical usage of the heart. Both the HEART IS CENTER metaphor and the HEART FOR CONTAINER image are accessible, yet less common in Norwegian. As for *head/hode*, it is clear that both cultures have access to certain metonymic extensions such as the head being the seat of reason, but only when the CONTAINER image schema is involved may one be almost completely assured that these extensions will be expressed in similar terms. The disparity of the effects of the CONTAINER image schema may result from a somewhat different understanding of internal organs versus external body parts. Unlike the gallbladder in Yu's 2003 study of Chinese, the internal organ of the heart is actually subject to less diversity than the image of the head as they are represented in Norwegian.

These tentative conclusions are based on the examination of four small words in a corpus containing only 2.6 million words. A glance into almost any good English or Norwegian dictionary reveals that there are many metaphors which are unrepresented in the ENPC. Access to a larger corpus is thus desirable, in order to gather still more sentences for study and make the findings more reliable. Furthermore, additional research concerning expressions dealing with other body parts might prove useful to discover whether the translation correspondences uncovered here are indicative of a larger trend involving the interaction between cultures and the continuum between metonymy and metaphor.

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