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A corpus study of metaphors and metonyms in English and Italian

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Abstract

A powerful claim of conceptual metaphor theory is that the most central metaphors are grounded in bodily experience. It might be expected that these metaphors would be shared by different languages. In this paper, we use large computerised corpora of English and Italian to examine the power of conceptual metaphor theory to explain the non-literal senses of lexis from the field of the human body. We find a number of equivalent expressions across the two languages which seem to be traceable to the body-mind mappings described in work by Sweetser [From Etymology to Pragmatics, Cambridge University Press, Cambridge, 1990] and others. We also find that metonymy is a significant force for generating non-literal expressions, and that a large number of expressions are apparently generated by a combination of metaphor and metonymy [Cogn. Linguist. 1 (1990) 323]. This cross-linguistic study suggests that while universal bodily experience may motivate many figurative expressions, the process is sometimes complex, and will not necessarily result in equivalent expressions in different languages, for cultural and linguistic reasons.
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1. Introduction

For researchers in language description, the work of Lakoff and his followers (e.g. Lakoff, 1987; Lakoff and Johnson, 1980) has potentially great explanatory power. One implication is that the different senses of a polysemous word are not arbitrary historical developments, but can be traced to an underlying conceptual metaphor. Their

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model (often termed ''conceptual metaphor theory'') thus offers an explanation for why two distinct semantic fields can be talked about using many of the same words and expressions: each of these pairs of words and expressions can be seen as the realisation of a conceptual metaphor that connects the two domains at the level of thought. For instance, lexical items from the field of light, such as *radiant* or *bright* are also used in the field of emotion to describe happiness, realising the conceptual metaphor HAPPINESS IS LIGHT (Kövecses, 1991).

Because conceptual metaphor theory claims to describe central processes and structures of human thought, it is not language-specific and should have explanatory power for languages other than English; it is therefore of potential use in cross-linguistic research. Although Lakoff (1993) rarely refers to languages other than English, his discussion of the theory is suggestive. He claims that the most central metaphors are grounded in our human physical experience (1993: 240), and as evidence for this position, argues that where the same conceptual metaphors exist in different languages, they tend to function in similar ways. For instance, he claims that in languages where directions are used to talk metaphorically about quantities, the equation is always UP with MORE and DOWN with LESS, never the reverse. Gibbs (1993, 1994) also argues for the experiential basis of central metaphors. He examines linguistic metaphors used to talk about anger and claims that many of these are realisations of the conceptual metaphor ANGER IS HEATED FLUID IN A CONTAINER. Examples that reflect this metaphor are *She got all **steamed up*** and *I was **fuming*** (1994: 203). He claims that we each perceive our own body as a container and when we become angry we experience physical sensations of heat and internal pressure, and therefore, the metaphor has an experiential motivation. This would imply that the same conceptual metaphor and similar linguistic realisations might be found in other cultures and languages.

There have been a number of cross-linguistic studies which have investigated the possibility that metaphors are not language-specific. Sweetser has carried out research on conceptual metaphors of perception across a number of languages, finding that they are highly consistent (1990). Detailed comparisons of individual languages suggest that emotion metaphors are also shared. For instance, Yu (1995) analysed Chinese metaphors for anger and found that the heat and pressure elements of the metaphor are the same as those in English described by Gibbs (1994); the only difference between the two languages is that gas is used instead of fluid to characterise anger in the Chinese metaphor. Emanatian (1995) studied metaphors in Chagga, a language spoken in Tanzania, and found lexicalisations of LUST IS FIRE, a metaphor in English identified by Lakoff (1987). Kövecses examined metaphors for happiness in Hungarian and found many commonalities with English and Chinese (2002). The similarities between metaphorical mappings found by these researchers, across unrelated languages, show that at least some conceptual metaphors are widely shared.

Researchers have not found complete consistency however. Deignan et al. (1997) investigated metaphors in Polish and English by asking English-speaking Polish informants to gauge the translatability of English metaphors into Polish. They found a number of close equivalents across the two languages, but they also found cases where linguistic metaphors varied. In some cases it seemed likely that this was because the linguistic expressions are different surface realisations of the same conceptual metaphor. However,

they also found cases where apparently different conceptual metaphors were used. This last finding might be reconcilable with the contemporary theory, if it were argued that the language-specific conceptual metaphors they found are in some way less fundamental than those that they found in both languages (but this is a somewhat circular argument). Boers and Demecheleer (1997) studied metaphors in economics texts in English, French and Dutch, and found differences in the frequencies of various metaphors across the three languages, differences which they ascribed to cultural factors. It seems then that there is evidence that some metaphors are common to a number of languages, but a great deal more work is needed to determine the extent and relative frequencies of shared metaphors.

2. Aims and approaches

The contemporary theory of metaphor has for the most part been developed by cognitive linguists and psychologists, whose central goal is to find out more about thought. Researchers in language description have a different agenda; while they do not deny the importance of thought, their own central concern is to account for patterns found in language in use. This difference in aims leads to differences in focus and methodology. For cognitive linguists, the purpose of examining language data is to prove or disprove hypotheses about conceptual links and processes. This may mean that surface linguistic features of the data, such as the preference for one lexical item over its synonym, are relatively unimportant. It also seems to imply a tolerance, or even preference, for elicited or invented data over naturally-occurring data. This is in part because by using elicitation techniques, researchers can attempt to observe and measure the process of language production itself. The use of invented sentences in experiments also enables close comparisons to be made, for instance, between participants' reactions to the literal and metaphorical uses of the same language items in various contexts (see for example, Frisson and Pickering, 2001).

For language description however, the value of a model of thought processes lies in its potential to explain observed features of language in use. Conceptual metaphor theory is highly relevant in its potential to explain some linguistic patterns, but the focus of investigation is the linguistic data, and the explanatory power of the theory is tested against the patterns found. In this approach, details of surface linguistic structure are of central interest because it is believed that apparently minor surface features, if found to occur regularly, may accumulate to reveal new patterns and generate more accurate descriptions. Naturally-occurring data is preferred over elicited data, particularly given findings about the disparity between what people actually write and say, as revealed in corpus studies, and what they think they write and say (Sinclair, 1991: 4). The concern is with central and typical patterns of language (Tognini-Bonelli, 2001), but an adequate description of these can then form the backdrop for studies of poetic or deviant language (see for example, Louw, 1993). However, although the primary goal of a language description approach is to account satisfactorily for language, it is nonetheless possible that the detailed examination of superficial linguistic features could have implications for our understanding of thought.

3. Corpora and methodology

The study described here aims to describe and compare a set of related linguistic metaphors across two languages, English and Italian, within the framework of conceptual metaphor theory. As discussed in Section 1, a central issue in the cross-linguistic study of metaphor is the extent to which we draw on human universals in order to create shared metaphors. Several important studies have suggested that the domain of body parts is central in metaphorising bodily experience (for example, Goossens, 1990; Sweetser, 1990), and we therefore chose to investigate metaphors from this source domain.

A difficulty for any corpus investigation is the wealth of data that could be examined, and a decision about which lexemes to focus on has to be made. There is a risk that patterns of potential interest may be missed, a risk which is difficult to avoid completely, because without a vast team of researchers and unlimited time, it is not possible to examine every linguistic realisation of a whole semantic field. In trying to minimise this risk when we selected the lexemes to focus on in this study, we drew on an earlier overview of the source domain that had been undertaken using a corpus approach (Deignan, 1995). This highlighted some key linguistic items in English, four of which were chosen for investigation after initial corpus searches showed that they also have extensive metaphorical uses in Italian. The items were *nose*, *mouth*, *eye* and *heart*, and their Italian translation equivalents *naso*, *bocca*, *occhio* and *cuore*. All derived and inflected forms of the items and some of their collocates were also studied.

Three computerised corpora were used: the English corpus is the Bank of English, which contained 329 million words at the time of the study, and the Italian data come from two corpora totalling around 35 million words.[1] Corpus data were analysed using some of the techniques developed in corpus lexicography as follows: firstly, the software was used to randomly select manageable samples, as the lexemes we studied generated many thousands of citations. Then, for general overviews of the main senses, 1000 citations of each word form were examined; wider searches for a few specific expressions were also made. The software we used presents citations using the Key Word In Context (KWIC) concordance format, as illustrated in Fig. 1.

As can be seen, in most cases, the 80 characters of context provided are sufficient for a preliminary identification of meaning. For instance, it is immediately evident that citations 1 and 7 contain a non-literal use of *mouth*; it is possible to study further context, which confirms that the meanings in 8 and 11 are also non-literal.

The main collocates of each lexeme were identified automatically for the English data, and manually for the Italian. Particular collocates are often associated with a particular sense; *attack* and *disease* for instance, are overwhelmingly associated with the literal sense of *heart*, while *break* occurs with a non-literal sense. Collocates can also signal evaluative meaning or semantic prosody (Louw, 1993); for instance, when *mouth* is used to refer to

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[1] The Bank of English is owned by HarperCollins Publishers and is held at the University of Birmingham, England. The Italian Reference Corpus and the Parole Corpus are held at the ILC-CNR in Pisa .The IRC consists of approximately 15 million words of written Italian, two thirds of which is newspaper and magazine journalism, the rest fiction and non-fiction books. The Parole corpus is approximately 20 million words and contains similar types of material, with some overlap with the IRC.

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1.  nd that's straight from the horse's mouth. Naylor: Grace al-Wasa is
2.  drug was difficult to administer by mouth because patients suffering
3.  He holds the bottle poised near his mouth but cannot remember to
4.    The only thing he can play is the mouth organ. He makes his
5.  to spit. Encourage him to rinse his mouth out with fresh water
6.  topped breathing immediate mouth to mouth resuscitation must be
7.   My son just took the words from my mouth," said Harry. And I have
8.  of Clapham Junction. Nancy's filthy mouth shouldn't distract from
9.  said, raising his left thumb to his mouth. Thanks for the shells,
10.      at Stan, her colourless little mouth was trembling. `Police?'
11. was going was because he had a big mouth. We put two and two
12.   merely stared, not answering, her mouth working as though she
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Fig. 1. Extract of the KWIC concordance for *mouth*; text coding removed.

someone's way of speaking, it is almost invariably premodified by a word which evaluates negatively in this context, such as *foul*, *filthy*, and *big*.

The main literal and non-literal senses of each item were then identified. This process was supported by dictionaries of each language and the researchers' experience in lexicography, particularly in the lexicographical description of non-literal language (see for example, Deignan, 1995; Moon, 1995). Because neither researcher is a native speaker of Italian, a native speaker informant was also consulted. The English dictionary used was *Collins Cobuild English Language Dictionary* (1995), and the Italian dictionaries consulted were *the Collins Italian Dictionary* (1995), the *Collins Sansoni Italian-English Dictionary* (1988), *Il Nuovo Ragazzini* (1984) and *Il Nuovo Zingarelli* (1988).

The non-literal citations were then studied in more detail. We examined the different types of non-literal meaning found, attempting to identify metonymies and metaphors, and cases of interaction between the two (Goossens, 1990). In many cases, body metaphors occurred in collocation with the metaphorical uses of other words, a fact which is unsurprising given the frequency of metaphor in language generally. We did not study these other metaphors, and they were disregarded except in the (fairly frequent) cases of fixed expressions such as *heart of gold*, where the entire phrase has a metaphorical meaning that results from the collocation of a body-part word with another word. The process of trying to determine what type of non-literal mapping had motivated each expression inevitably ran parallel with deciding to what extent each was grounded in bodily experience; that is, in practical terms, disentangling the various non-literal devices at work is not separable from the process of analysing the various semantic links between literal and non-literal uses.

Both corpora consist of contemporary texts, but while the English corpus contains both written and spoken material, the Italian data is all written, and the proportions allotted to various genres differ in the two corpora. Unfortunately, this means that the cross-linguistic comparisons of the frequency of different senses of lexemes cannot be considered reliable, and it could not be asserted that the frequencies of senses found in either of these corpora exactly mirror frequencies in either language as a whole. Nonetheless, some very general conclusions as to the frequency or rarity of expressions can be drawn from these data.

As would have been expected, given the findings of the cross-linguistic studies cited above, we found a range of equivalent and non-equivalent meanings across the two languages. We identified some non-literal senses that have the same meaning in both languages and are used with the same connotations and in similar contexts. We also found non-literal senses that are roughly similar but have slightly different lexicalisations. In each corpus there are non-literal senses that were not found in the other. In the following sections, we present our findings with examples, and we consider to what extent our data can be explained by the conceptual metaphor theory, and what linguistic tendencies they reveal.

4. Non-literal language in the corpora: frequency and fixedness

The most immediately striking finding is that non-literal language is extremely common, often accounting for a substantial proportion of the corpus citations of a word. This is consistent with the reported experience of corpus lexicographers (Lewis, 1993). In our data, for example, around 65% of citations of *head*(*s*) and *heart*(*s*), around 50% of *hand*(*s*) and *eye*(*s*), around 25% of citations of *nose*(*s*), and around 17% of citations of *mouth* are non-literal (but see Section 5 where the difficulty of distinguishing literal from non-literal uses of body lexis is discussed).

Another general observation is that a very large proportion of metaphors and metonyms appear in expressions that have some degree of fixedness. This can be seen in an analysis of the use of *heart* to refer to the seat of emotions. The following four citations of this use were chosen at random from the concordance:

> "…opening her heart during the Cannes Film Festival."

> "It broke her heart."

> "I apologise from the bottom of my heart if I have hurt anyone's feelings."

> "… talking until dawn about affairs of the heart."

At first glance, the data might suggest a metaphor that combines freely with other lexical items. However, a closer examination of citations reveals many semi-fixed expressions such as [*one's*] *heart goes out to* or [*be*] *a child at heart*. Table 1 shows a breakdown of the citations of this use of non-literal *heart*. (This does not cover the whole range of the non-literal use of *heart*; other uses such as the expression *take heart*, in which *heart* seems to mean 'courage' are not included in the table.)

Of the sample 1000 citations of *heart*, over half are non-literal, and of these, 247 seem to have the meaning 'seat of emotions'. As Table 1 shows, in 177 of these 247 citations, *heart* appears in a collocation which occurs three or more times in the sample. The remaining 70 citations are apparently cases where *heart* combines freely with other words. However, examination of some of these citations suggests that if a larger sample were studied, more collocations and idioms would emerge. For instance, although the expressions in which *heart* appears in the following citations occur only once in the sample, wider corpus

Table 1
Freely combining uses and collocations with *heart*, meaning 'seat of emotions', found in a sample 1000 citations, ordered by frequency

Number of citations	Freely combining/collocation	Example
70	Freely combining	. . . blue eyes that could melt a mother's heart . . . . . . heart searching meetings . . . dear to my heart
38	Break someone's heart, heart-broken, etc.	I haven't been able to eat or sleep and it breaks my heart to look at Elaine
20	In someone's heart	He is still with us, in our memory, in our hearts and in our daily life John knew in his heart that it was not Anthony's age but his attitude which gave little hope
10	Open one's heart	He opened his heart after an emotional first round victory
9	At heart	They had the interests of shareholders at heart
9	Win/capture someone's heart	. . . (his) predecessor, who won the hearts of the entire world David, as he became known, captured the hearts of millions
8	From the heart	I don't know how eloquent it will sound. It will come from the heart and that's important
8	Rend/wrench heart/heart rending	It is heart rending to see animals who have suffered
8	Warm someone's heart, heart warming	The funniest, corniest, heart-warmingest comedy you'll see for 20 years
6	Heart goes out	Words cannot express my sorrow—my heart goes out to the family
6	Have a heart	It proved that even in a cruel business like the record industry, many people have hearts
5	Affairs/matters of the heart	(They are) inept especially when it comes to matters of the heart
5	Set one's heart on	I have really set my heart on getting married
5	Heart and soul	. . . A two-man battle with Buchanan for the heart and soul of the republican party
5	To heart	He will probably take what is said to heart
4	Heart ache	It is obvious how much her heart aches for Lin
4	Heart of hearts	. . . even when we know in our heart of hearts it's time to switch from laid-back whizz kid to young professional mode it's so hard
4	Have a place in someone's heart	She has a very special place in your hearts
4	Have/with a heavy heart	The decision to terminate his contract has been made with a heavy heart
4	Hand on heart	Hand on heart, I can tell they are looking forward to the game
3	From the bottom of someone's heart	From the bottom of my heart I thank all the staff for their warmth and kindness
3	Close to someone's heart	Go for something or some sort of subject which is close to their heart

Table 1 (*Continued*)

Number of citations	Freely combining/collocation	Example
3	Hard heart/harden one's heart	He has hardened his heart against the misery he is causing
3	Heart to heart	Well you know rely on your friends and whatever you do, do try and yeah have a heart to heart
3	Heart/head	His heart ruled his head

searches show that they are not unique in the corpus; intuition also suggests that they are conventionalised:

> . . . blue eyes that could *melt* a mother's *heart* . . .

> . . . *heart-searching* meetings . . .

> . . . *dear to my heart*.

It could be argued from these data then that this sense of *heart* is not a freestanding lexical item; rather, the word occurs in a large number of multi-word expressions in which it carries the idea of 'seat of emotions'.

While we are not arguing that non-literal expressions are never single words, the concordance analyses that we discuss in this paper have suggested that there is a strong tendency towards the development of multi-word expressions when words are used non-literally. This may be related to Cruse's (1986: 72) observation about the modification of metaphorical uses; he points out that metaphorical uses of *mouth* are usually post-modified, in, for example, *mouth of the river* or *mouth of the bottle*. He argues that unmodified *mouth*, used in an utterance such as his example *At school we are doing a project on mouths*, would be assumed to refer to the non-metaphorical sense. It may be then that there is a tendency for the non-literal uses of frequent words to have regular collocates and syntactic patterns, as this helps to disambiguate them from literal uses.

Table 1 shows 24 multi-word expressions for this sense of *heart* alone; it also shows that a few of these, such as *break someone's heart*, are relatively frequent. The other lexemes that we studied also appeared in a number of fairly frequent, non-literal, semi-fixed collocations. However, we found a rather different picture for a related class of multi-word expressions, namely, 'pure' idioms, or 'opaque metaphors'. Following Moon (1998), we use these terms to refer to the class of colourful multi-word expressions that are semantically opaque and relatively fixed, and that are probably prototypical of the category <u>idiom</u> for most people. In the corpora that we searched, idioms of this kind are rare both in terms of type and token: that is, a limited number was found, and those that were found were infrequent. For instance, the English expressions *wear one's heart on one's sleeve*, meaning 'display romantic feelings openly', *put someone's nose out of joint*, meaning 'upset someone', and the Italian expression *avere il cuore sulle labbra*, meaning 'show one's (strong) feelings' [literally, 'have one's heart on one's lips'], were all infrequent. The English expressions were found once per thousand citations of *heart* and *nose*, while the

Italian expression was found just once in the entire corpus. The finding that pure idioms are relatively infrequent is consistent with the detailed corpus study of fixed expressions and idioms carried out by Moon (1998), who also raises the interesting question of how these colourful idioms can be so apparently familiar to language users when their actual occurrence is generally rare.

5. Types of non-literal language found

Having made some general observations about frequency and about the linguistic patterns we noted, we move on to describe the different kinds of non-literal language that we found in the data. We divide these into metaphor, metonymy, and two further classes which involve the interaction of metaphor and metonymy, which are taken from Goossens' dictionary-based explorations of non-literal language (1990, 1995). We add a fifth category, image, which spans the literal/non-literal boundary.

5.1. Metaphor

A strong view of conceptual metaphor theory suggests that clusters of semantically related lexis are mapped onto an abstract semantic domain, recreating the lexical relationships which hold in the concrete source domain. Lakoff and Johnson, for example, show how ideas are talked of in terms of plants (1980: 47). In this mapping, the relationship of antonymy that holds between *barren* and *fertile* in the source domain is maintained in the target domain, as are the causal and temporal relationships between words and phrases such as *sow a seed*, *grow*, *blossom*, and *bear fruit*. Corpus research has shown that systematic metaphorical mappings of this type are frequent in naturally-occurring language (Deignan, 1995). In this study, one such metaphor that we found maps the source domain of an animal's body onto the target domain of an aircraft or vehicle, in citations such as

"The helicopter would land, her nose into the wind."

"The pair had driven nose to tail on the rain-soaked track."

"We've replaced some wide-body aircraft with narrow-body aircraft on various routes for more efficiency."

However, we found that there were relatively few clear-cut cases of systematic metaphorical mappings like this; this study did not suggest that such mappings result in many significant frequent senses of body part lexis.

We also found a few instances of one-shot metaphors, that is, metaphors which are apparently not part of a systematic mapping. For instance, *mouth* is used to talk about openings of tunnels or buildings, and the point where a river meets the sea. This is a fairly frequent use in English, accounting for 5% of citations of singular *mouth* (see Table 2). However, such clear-cut cases of metaphor were not common in either the English or Italian concordance data examined; most of the non-literal language found was more complex in nature.

Table 2
Non-literal senses of *bocca* found in sample 1000 citations from the Italian corpus

Number of citations	Italian English	Example
Mouth standing for speech		
45	*rimanere/restare etc a bocca aperta*: be amazed (lit. have one's mouth open)	*Resteranno tutti a bocca aperta*
18	*aprir bocca/non ha aperto bocca*: open one's mouth/not open one's mouth, speak/not speak	*Ma non avevo ancora aperto bocca*
16	(*parlare*) *per bocca di qualcuno*: (speak) through the mouth of someone	*essi parlano per bocca sua* *Il commento più aspro è venuto dalla Confindustria, per bocca del vicedirettore generale, Carlo Ferronil*
15	*essere sulla bocca di* (*tutti/qualcuno*): be on everyone/someone's lips	*La storia del gran rifiuto è sulla bocca di tutti*
5	*chiudere la bocca*: to shut up	*Meglio anzi che teniate chiusa la bocca.* *È la cosa migliore che possiate fare*
2	*mettere parole, una storia in bocca a qualcuno*: put words, a story into someone's mouth	*… mette in bocca a Socrate la leggenda del dio egizio Thot*
1	*essere trasmessa dalla bocca di qualcuno*: be passed from the mouth of someone	*… quanti quantità innumerevole di figli hanno, trasmessi loro dalla bocca dei loro padri e dei loro nonni …*
(102)		
Mouth standing for eating		
4	*rimanere a bocca asciutta*: to have a dry mouth, be disappointed	*Aveva la bocca asciutta perché era stato a discutere tutto il pomeriggio* *Tutto questo mentre l'Europa è rimasta a bocca asciutta*
1	*riempirsi la bocca*: fill the mouth/talk about	*In Italia ci riempiamo la bocca di Europa, ma siamo ancora troppo nazionalisti*
(5)		
Other		
10	*la bocca da fuoco/di cannone/di caverna*: the muzzle of a gun/cannon/the mouth of a cave	*Stavano dietro la bocca da fuoco, traguardavano dall'alzo panoramico* *… la bocca di un cannone di enorme calibro* *Finita la cerimonia rinchiusero la bocca della caverna col pietrone e lo lasciarono là*
(10)		

5.2. Metonymy

Up to this point we have tended to talk in general terms about 'non-literal language', rather than attempting to distinguish metaphor and metonymy; to do so necessitates a clarification of the notion of metonymy. This trope is generally understood as being a transference within a single semantic field rather than across two fields, the metonym being

one aspect of an entity which is used to refer to its whole. Warren (1999: 133) talks about the distinction in terms of interpretation, arguing that "the basic difference between metonymy and metaphor is that the interpretation of metonyms involves retrieving a relation, whereas the interpretation of metaphors involves retrieving at least one attribute, shared by the conventional and intended referents."

Much of the earlier literature on metonymy cites examples such as the use of *wheels* to refer to a car, *ham sandwich* to refer to a person who has ordered a ham sandwich, or *sax* to refer to a saxophone player (Lakoff and Johnson, 1980). Many such examples are context-bound, and so outside a general description of language, as is the case for the second and third of the above examples. These are of interest as a device by which speakers use shared context for efficient communication, but they do not result in permanent additions to the lexicon and are therefore of minor interest to researchers concerned with the description of general and typical language use. However, work such as that of Kövecses (2000, 2002) has shown that metonymy can be a broader and more generative force than these examples suggest. Particularly relevant to the analysis of body part lexis is the argument that the physical effects and the emotional experience of a feeling could be regarded as part of the same domain. This means that describing the physiological effects of an emotion in order to refer to that emotion is an instance of metonymy. Drawing on his own and Kövecses' important work in the field of emotions, Lakoff argues that there is a general metonymic principle that the effects of an emotion can stand for the emotion (1987). Kövecses uses this argument to suggest that numerous expressions such as *to have cold feet* are metonyms; "one part or element of the domain of fear is an assumed drop in body temperature" (2000: 5). Thus, *to have cold feet* "is an example of the conceptual metonymy A DROP IN BODY TEMPERATURE STANDS FOR FEAR," (ibid.). Similarly, it could be argued that describing a physical gesture that conventionally expresses a feeling, can be a metonymic reference to the feeling.

With this understanding of metonymy, it seems likely that the language of the human body is the basis for a large number of metonyms, because our physical selves constantly reflect our mental states. However, the concordance data that we examined showed few such clear-cut metonymies. While much of the non-literal language that we analysed has a component of metonymy, most of the mappings were complex, as described in the following two subsections.

5.3. Metonymy within metaphor

The traditional understanding that there is a sharp distinction between metaphor and metonymy has been reconsidered by a number of researchers. The position is now widely taken that the two tropes should be seen as interacting with each other (Goossens, 1990, 1995), or existing on a continuum (Barcelona, 2000a,b; Radden, 2000). This view was strongly supported by our analysis of citations from both English and Italian.

In each of the corpora, some citations were found that seem to show both metaphoric and metonymic processes in their development. Some of these appear to be examples of an interaction which Goossens terms 'metonymy within metaphor' (1990, 1995), where "a metonymically used entity is embedded within a (complex) metaphorical expression" (1995: 172). One of Goossens' examples is the expression *bite one's tongue off*: here the tongue is used

metonymically to stand for speech, and the expression as a whole is used metaphorically to mean 'deprive oneself of the facility of speech'. If metaphorical language is viewed as the product of an etymological process, we could see 'metonymy within metaphor' as having two stages; first a metonymy stands for an associated entity within a wider, literal context, producing the literal *bite one's tongue off*, meaning 'prevent oneself from speaking'. In the second stage, the phrase containing the metonym is itself used to talk metaphorically about a more abstract idea: *I could bite my tongue off* is very rarely interpreted literally but is understood to mean 'prevent myself from speaking again'.

In our data we found a number of expressions which seem to show this type of interaction. For instance, the Italian expression *essere di bocca buona* can be translated literally into English as 'to be of good mouth'. The mouth is a conventional metonym for eating, and therefore one of the meanings of the Italian expression is to describe someone who habitually eats well. However, the expression is also used to describe a person who is easily pleased, a meaning which appears to result from a metaphorical transfer from the field of eating to the more abstract field of likes and dislikes.

In both English and Italian, the mouth often also stands metonymically for speaking (the lexical item *lips* rather than *mouth* often realises the mapping in English). The Italian expression *parlare a mezza bocca* [literally, 'speak with half-mouth'] has a meaning of 'speak unclearly'. It also has a non-literal meaning of 'hinting', which has connotations of dishonesty or reluctance, as in the following citation:

> "*Propone a mezza bocca un referendum consultivo*." ['He reluctantly (literally, with half mouth) proposes a consultative referendum.']

There are a number of similar examples in the data. For instance, the nose stands metonymically for the foremost part of the body in both languages, which leads to the expression *follow your nose* and its Italian translation equivalent, both meaning 'go forward in a straight line'. The expression is then used metaphorically to mean 'follow one's instincts'.

The expression *to get back on one's feet* is used to talk about physical recovery from an illness; this seems to be an instance of metonymy, on the grounds that a sick person prototypically lies down, and when they recover they stand up again. The expression is used metaphorically to refer to situations such as improvements in a company's fortunes, in citations such as:

> "Bankruptcy laws are designed to give ailing companies a chance to get back on their feet."

5.4. Metaphor from metonymy

A clear division between literal and non-literal citations of a word is not always possible: for some citations both a metaphorical and a literal interpretation are possible, with one shading into the other. For instance, Kittay discusses the expression *my hands were tied*, and argues that it may not always be possible to be sure whether a literal or metaphorical meaning is intended (1987). Goossens describes expressions of this type as being the product of 'metaphor from metonymy'. He shows how the expression

close-lipped can be understood in two different ways; firstly it can mean 'remain silent' through metonymy, a person's closed lips standing for lack of speech. Alternatively, it may refer to someone who could be talking a lot, but is not giving away the information that the hearer wants; in this case the expression is a metaphor, one which is derived through a metonymy (1990).

A number of examples of metaphor from metonymy were found in our data. These include *turn one's nose up at something*, meaning 'reject', which is a metonymy when it is true literally, and metaphor from metonymy when it is not literally true but refers to another form of rejection, as in the following citation.

> "Two trees in Horace's garden demonstrate that you should never turn your nose up at inexpensive plants."

In both English and Italian, there are several expressions in which the mouth stands for speech. Here, opening or closing the mouth stands for speaking or remaining silent, and again these relations may be physically true, in which case they are instances of metonymy, or they may refer more generally to giving or refusing to give information, in which case they are cases of metaphor from metonymy. For example, 'open one's mouth' in the following citation probably does not apply literally, yet it seems to refer metaphorically to the act of saying something indiscreet:

> "No one could be trusted, and no one could open his mouth in public or in private without wondering if his partner in conversation belonged to the secret police."

A further example is the expression *bite one's lip*, which can be interpreted literally, meaning 'physically prevent oneself from speaking', or metaphorically, meaning 'refrain from speaking'. *Turn one's back* works in the same way; the expressions appear together in the following citation:

> "I know better than most how difficult it is to bite your lip and turn your back on all the name calling."

As can be seen from the range of examples in these last two categories, our corpus data fully support Goossens' work on metaphor and metonymy. It is even possible that the interactions between metaphor and metonymy that Goossens describes are more important than he suggests, because the data that he uses, dictionary entries, may under-represent these types of expression. Moon notes that dictionaries tend to focus on 'pure' idioms rather than more transparent collocations, because the purpose of a dictionary is to describe language at the lexical level. They therefore attempt to list 'pure' idioms as fully as possible because these cannot be broken down into their component words (1998). More transparent metaphorical collocations, on the other hand, are not usually seen as the territory of a dictionary, because they are the product of their components. Goossens' collection of metaphors is likely therefore to have included a relatively high number of 'pure' idioms and fewer transparent metaphorical collocations. Our corpus approach, which considers metaphors and metaphorical expressions on the basis of frequency, regardless of whether they are semantically transparent, has shown large numbers of Goossens' 'metonymies within metaphor' in fairly transparent metaphorical collocations, which presumably his analysis would not have picked up.

5.5. Image

The final group of non-literal expressions that we found in our data is very closely linked to the above category, and in fact straddles the boundary between literal and non-literal language. Here, the use of body lexis seems to have a symbolic function: its lexical reference is indisputably literal, but it seems in addition to reflect something about a character's inner state. Expressions in this group draw on the hearer or reader's knowledge of body-mind links to encourage them to make inferences that could be seen as metaphorical. The following citations of *mouth*, *bocca* and *heart* illustrate this:

> ''I didn't realize that, sir', said Tom, his mouth open.''

> ''*I fratelli spalancano la bocca dallo stupore*.'' ['The brothers' mouths hang open in amazement.']

> ''My heart was pounding.''

> ''*Il cuore mi batteva da scoppiare*.'' [literally: 'My heart was pounding fit to burst.']

In each of these citations, the utterance is understood as literally true, and no metaphorical sense can be ascribed to the body part lexis. However, the citations seem to connote mental states, in the first and second cases, surprise, and in the third and fourth, fear or another strong emotion.

In both languages, there are many citations in which the eyes are mentioned in order to describe a state of mind. An example from the English corpus is

> ''Indignation blazed in her eyes.''

The Italian corpus contains a number of citations of *occhi* [eyes] qualified by an adjective such as *tristi* ['sad'], *calmi* ['calm'], *ridenti* ['laughing'] and *gelidi* ['frozen'].

It does not seem that this device could ever be captured in a linguistic description, because its effect is dependent on speaker and hearer sharing associations between physical and mental processes, such as the connection between having one's mouth open and being very surprised.

6. Non-literal language in English and Italian: meaning

Having classified the various kinds of non-literal language that we found in the various corpora we studied, we can now compare them across the two languages. We begin with a close comparison of metaphorical uses of the English and Italian translation equivalents of one word. We then consider which non-literal uses are shared by English and Italian, and which seem to be motivated by direct bodily experience, or other shared metaphors. We then look at metaphors that do not exist with the same meaning in both languages.

6.1. Non-literal uses of mouth/bocca: a comparison

In this section, we present an analysis of 1000 citations of *mouth* from the English corpus and 1000 citations of *bocca* from the Italian corpora. It is important to stress again that the

Table 3
Non-literal senses of *mouth* found in sample 1000 citations from English corpus

Number of citations	English expression	Example
Mouth standing for speech		
27	By word of mouth	Most of her work comes by word of mouth
19	Shut mouth/keep mouth shut: not talk	He had to keep his mouth shut
17	[modifier] mouth describing manner of speech	motor mouth/loud mouth/big mouth/filthy mouth/foul mouth/all mouth
12	Put money where mouth is	The best way forward is to insist that meat purchased is produced using welfare-friendly methods, but it will cost. It demands that the consumer puts his money where his mouth is
9	Put words in someone's mouth	I hope I'm not putting words in your mouth but it seems to me that this special collection is very special to you
8	Open your mouth (to speak)	Every time he opened his mouth a writ was served on him
(92)		
Mouth standing for eating		
2	Leave a sour taste in the mouth	The taunts left a sour taste in the mouth of the manager
2	Mouth-watering (non-literal)	Virgin interactive has released a mouth-watering PC CD compilation entitled Temptation
(4)		
Other		
50	River mouth/goal mouth/tunnel mouth	[The carrier] ran aground on the Hebe Reef, near the mouth of the Tamar River Ahead, the tunnel mouth gaped
5	Butter wouldn't melt in the mouth	. . . as though butter wouldn't melt in his mouth
5	From the horse's mouth	That [story] is from the horse's mouth
5	Live hand to mouth	Every penny counts when you're on benefits. I'll defy anyone to say that they don't live hand to mouth on benefits
4	Froth/foam at the mouth	The sight of [him] would have the chattering classes foaming at the mouth
(69)		

two corpora are composed differently; the Italian corpus is all written, while the English corpus contains some spoken data and tabloid journalism as well as serious newspaper and radio data. This means that the frequency information should be treated as an approximate guide only, and that detailed comparisons are not robust. Tables 2 and 3 give the non-literal senses found in the samples.

   These tables show that for each language, a very large proportion of non-literal language is metonymically-grounded rather than metaphorical. The only sense that could be described as a metaphor in the classical sense is the use of *mouth/bocca* to refer to the

opening of a cave, tunnel, or gun, or the point where a river meets the sea. This latter use is conventionalised in English but not in Italian, which accounts for the large difference in numbers of citations.

For both languages, the majority of expressions are derived from the metonymic use of *mouth/bocca* to stand for speaking or eating. Of these, all seem to fall into Goossens' 'metonymy within metaphor' or 'metaphor from metonymy' categories. Instances of metonymy within metaphor include *parlare per bocca di qualcuno* which means, roughly, 'to put one's message across through someone else'; here the mouth stands metonymically for speaking, and the whole expression is metaphorical. The English expressions *put words in someone's mouth* and *put money where one's mouth is* work in the same way. The Italian *rimanere a bocca asciutta* and the English *mouth-watering*, as well as most of the expressions referring to closed or open mouths, are examples of metaphor from metonymy: all could be literally true, based on a metonymy, but all are also used metaphorically. The group of English expressions that includes *big mouth*, *foul mouth*, and *filthy mouth* could be seen as pure metonyms, if *mouth* is viewed alone as standing for speech. It can be argued though that since this use of *mouth* never does occur without a premodifier, the whole noun phrase should be considered. All the adjectives found before these occurrences of *mouth* are themselves metaphorical, and from this perspective such uses are cases of metonymy within metaphor.

One difference between Tables 2 and 3 is the number of pure idioms in the English table, which includes *butter wouldn't melt in someone's mouth*, and *live hand to mouth*. The Italian sample did not show any idioms of this kind, but much more extensive searches would be needed to see whether this is more widely the case in the language, because (as suggested above), the absence of these expressions in Italian could simply be the result of the different balance of text types in the two corpora.

Two points seem to emerge from this comparison. Firstly, apart from minor differences, it is perhaps surprising how similar the non-literal uses of the words are. Secondly, this very limited evidence suggests that metonymically grounded expressions are easily the most frequent type of non-literal language from this source domain in both English and Italian.

6.2. Shared metaphors grounded in bodily experience

In this and the following sub-sections, we consider and compare the non-literal language that we found in the various corpora from a semantic perspective, as opposed to analysing the various figurative devices at work as we have done up to this point. We begin by looking at what is shared by the two languages, having found that there is a large area of overlap. In many cases it seems likely that shared mappings are motivated by bodily experience. Expressions common to both languages include *look beyond the end of one's nose*, in citations such as

> "... your attention and energy are naturally freed up and you can start to look beyond the end of your nose to the rest of the world around you."

The Italian translation equivalent, *vedere al di là del proprio naso*, is used with the same non-literal meaning, of paying attention to matters that do not immediately concern one,

with the same positive evaluation of this behaviour. The expression seems to have two motivations: seeing stands metaphorically for thinking (Sweetser, 1990), and the physical body stands for a person's immediate concerns. Because the nose is literally the extreme edge of the head, it stands here for the boundaries of the physical body, and thus metaphorically for the limits of one's immediate interests. The following example is typical of its use in Italian:

> "*Non vedeva la realtà umana a pochi centimetri dal suo naso.*" ['He could not see the human reality just beyond the end of his nose.']

Citations for *eye* and its translation equivalent *occhio* also show a number of shared or very similar expressions, including *keep an eye on* (*tener d'occhio*). Sweetser found that there is a large number of expressions across many languages which show an equation of the eye, and sight in general, with paying attention, and argues that this is experientially motivated (1990).

In some cases we found different lexicalisations of what seems to be the same underlying metaphor. For instance the English *turn a blind eye*, meaning 'ignore misbehaviour', can be translated as Italian *chiudere un occhio* ['shut an eye'], and can again be explained by Sweetser's argument.

In both languages, the nose seems to stand for instinct, and there is a suggestion that this is in contrast with analytical intelligence, as in the following citation:

> "Dwight was an instinctive journalist. He had a nose for changes in the cultural climate."

> The Italian citations are close in meaning:

> "*È rimasto il suo 'Mi affido al mio naso' in un'intervista rilasciata a Giampaolo Pansa ...*" ['We still remember when he said in an interview with Giampaolo Pansa "I trust my nose" ...']

Related lexis such as *avere fiuto* (literally 'have a sense of smell', 'have a nose for') are also used in both languages. These expressions seem to be realisations of a metaphorical equation of smell with intuitive intelligence.

All the expressions discussed in this subsection are consistent with the view of Sweetser (1990) that many ways of talking about perception are shared across languages and link bodily experience with mental processes.

6.3. Shared metaphors grounded in cultural knowledge

For some non-literal senses found in both languages, the grounds of the metaphor do not seem to be purely based on bodily experience, but also have roots in folk beliefs or conventional behaviour. In particular, some common metaphorical expressions are grounded in shared notions about the equation of a particular body part with particular emotions. This seems to be the case for a number of uses of English *heart* and Italian *cuore*, such as *have a heart* and *heart of gold*, both meaning, roughly, 'be generous', translatable as *essere di buon cuore* and *cuore d'oro*. Fernando (1996) argues that physical experience is filtered through culture and that many non-literal expressions

may have their origins partially in meaning systems traceable to medieval beliefs. Niemeier (2000) claims that while the use of the heart to stand for emotions is not a cultural universal, it is widely shared, and generates a large number of metaphorical and metonymic expressions.

Gestures that are conventional in a culture also appear to motivate non-literal senses, the figurative meaning standing for the emotion expressed through the gesture. As some conventional gestures are in turn partly motivated by an instinctive physical reaction, not surprisingly, some close similarities between the two languages were found. For instance, the English *turn up one's nose* is used to convey a sense of superiority in citations such as the following:

> "If you turn your nose up at eat-all-you-can curry houses, you shouldn't be reading this column."

The non-literal sense of this expression is translatable into Italian with *storcere* or *arricciare il naso* ['twist' or 'wrinkle the nose'] in citations such as the following:

> "*I critici storcono un po' il naso*, *ma il film è un trionfo*." ['The critics twist/turn up their noses, but the film is a hit.']

A closer English equivalent, *wrinkle one's nose*, also exists but is rare in the corpus, and seems to connote less strong feelings.

Expressions motivated by gestures show in varying degrees a cline from literal to non-literal meaning. The Italian expression *stare col naso in aria* ['be with one's nose in the air'] can connote a feeling of superiority, but is only used when it is also literally true, that is, it falls into our category of 'image'. In contrast, the English *turn one's nose up* is sometimes used with a purely figurative meaning, that is, it can be used about someone who is not literally making this gesture, as in the above citation, and so falls into the category 'metaphor from metonymy'. For English *wince* and its near equivalent in Italian, *storcere la bocca* ['twist one's mouth'], the reverse is found: the English word is always literal, but in connoting discomfort, it also serves to describe feelings, while the Italian expression can be used when the literal meaning does not apply. These close equivalents also differ slightly in their non-literal meaning: while the facial expressions referred to are similar, the English expression usually connotes embarrassment, pain, or sympathy with another's pain, while the Italian expression connotes disgust or disapproval.

These examples suggest that some non-literal expressions referring to gestures have translation equivalents and convey broadly similar ideas, but that there may be subtle differences both in the type of figurative mapping involved, and in details of meaning.

6.4. Differences in metaphorical meaning

We found some evidence of differences in metaphorical senses between the two languages. For each of the words studied, one or more non-literal senses were found in one of the corpora but not the other. For instance, a full search of the Italian corpora suggested that Italian has a wider range of expressions than does English in which *bocca* [*mouth*] stands for eating, and by extension stands metaphorically for feelings and behaviour. Expressions found in the Italian corpus include *bocca dolce*, *bocca amara*,

bocca asciutta ['have a sweet taste' or 'a bitter taste in the mouth', 'have a dry mouth'] and *riempirsi la bocca* ['fill your mouth'], all with metaphorical meanings, as in the following citation.

> "*In Italia ci riempiamo la bocca di Europa, ma siamo ancora troppo nazionalisti*."
> ['In Italy we fill our mouths with Europe but we are still too nationalistic']

The concordances of *heart* and *cuore* show further examples of differences between the two languages in both the frequency and scope of non-literal senses. *Heart* used to stand for courage occurs in several conventional phrases in English:

> "I took heart at least in knowing I was not alone."

> "Opposing voters lost heart throughout the day."

This sense is not unknown in Italian but was not found in the corpus citations. In Italian these meanings are sometimes expressed by verbs containing the root of the word for *heart*, *cuore*: *rincorarsi* and *scoraggiarsi*.

The range is wider in Italian for the expression *from the bottom of one's heart*. In English this has just one main meaning, of sincerity, while its Italian translation equivalent can also refer to feelings that are kept hidden, as in the following example:

> "*Nutriva in fondo a suo cuore una passione segreta e infelice per la scena*." [literally, 'At the bottom of his heart he nourished a secret and unhappy passion for the stage.']

However, such differences in non-literal meanings between the two languages seem slight in comparison with the huge numbers of similarities found.

7. Non-literal language in English and Italian: linguistic realisations

In this section, we discuss more closely some of the linguistic patterns that were found. Differences between the two languages were found to be more marked when the data was examined at this level of detail.

7.1. Extension

Many metaphorical mappings are shared by the two languages, and are realised by semantically equivalent lexis. However, we sometimes found that the range of collocations differs. For example, both languages talk about a person's heart beating for someone or something to refer to holding strong emotions. In the English corpus the non-literal use of *one's heart beats* is relatively infrequent, occurring less than once per thousand citations, and it occurs exclusively in talk about romantic objects. In the Italian corpus the expression *il cuore batte* is much more frequent, and can be used to talk about anger as well as positive and romantic feelings. The range of objects towards which feelings are directed is wider in Italian. In the following example the object is political:

> "*Il suo cuore batte per il partito liberale*." ['His heart beats for the Liberal party'.]

The English translation sounds rather odd because of the connotations of romance associated with the expression.

As with many of the expressions discussed in previous sections, there is an element of literal meaning in this sense of *heart*, and the experiential basis seems intuitively clear. Nonetheless, the existence of experiential motivation does not necessarily mean expressions will have identical uses in different languages, as this example shows. It seems that the non-literal meanings that speakers express through specific lexis are generally constrained by the conventions of particular languages, and are only a small subset of the many meanings that could potentially be generated by conceptual metaphors.

7.2. Fixedness

Detailed examination of corpus citations suggests that the range of variation in non-literal expressions containing the lexis under study differs. For example, the mouth is used to stand for speech in both languages, and in both languages speakers use the lexis of closing to mean becoming or staying silent: *shut one's mouth* in English, *chiudere bocca* in Italian. Both languages have expressions such as *put words into somebody's mouth*, the Italian equivalent being *mettere le parole in bocca a qualcuno*, and *take the words out of somebody's mouth* (*levare/togliere le parole di bocca a qualcuno*). However, the lexis used in the Italian non-literal expressions is far more varied. In the senses of speaking or refraining from speaking, the verbs which collocate with *bocca* include *spalancare* ['open very wide'], *serrare* ['shut tight'], *tappare* [literally, 'stop up', 'cork'], and *cucire* ['sew shut'], used in the following example:

> "*La Casella ha la bocca cucita.*" ['Casella's mouth is sewn shut.']

English is far more restricted. *Shut* is used, but its synonym *closed* is rarely used figuratively in this context: *shut* occurs after *mouth* 18 times more frequently than *closed* in the corpus, and the majority of the citations of *mouth + closed* are purely literal. *Open* occurs with *mouth* in expressions that refer metonymically to speech, but shows a degree of fixedness, being mainly used with this meaning following clauses expressing negativity, as in citations such as the following:

> "No one could be trusted, and no one could open his mouth in public or in private without wondering if his partner in conversation belonged to the secret police."

In English the expression is not only relatively fixed lexically; structurally there is also little variation. It usually occurs in the form *keep one's mouth shut*, with variations such as *shut someone's mouth* with a non-literal sense being far less frequent in the corpus. Lexical variation is not impossible for these English expressions, but the data suggest that this would be innovative and marked. This contrasts with Italian, the pattern emerging in Italian being that of a fairly freely combining lexical set.

In both languages it seems that although metaphorical and metonymical connections at the level of thought motivate the creation of non-literal senses and expressions, their use is constrained conventionally. Linguistic realisations vary in ways that cannot be explained by a straightforward mapping of one semantic field onto another.

8. Conclusion

Returning to the explanatory possibilities of conceptual metaphor theory, the results of our corpus searches seem initially a little disappointing. This limited study has not reflected a picture of freely-forming networks of metaphorical senses in either language. Rather, what emerges is a patchy picture of a few words from the same literal domain being used with a non-literal meaning that could be attributed to a body-mind mapping. The various mappings have resulted in a limited number of expressions, variations on which are limited. The stock of these expressions is no doubt added to over time, but the data would suggest that this is a fairly slow process and not something that most speakers do habitually. It seems then that conceptual metaphor theory may not be able to offer a predictive framework for the description of non-literal language, although it certainly provides a convincing explanation.

However, this study has brought out two important points. Firstly, metonymy and, in particular, its interactions with metaphor, account for vastly more non-literal expressions than metaphor alone, both in terms of type and token. Secondly, despite some differences at a fairly detailed level, very similar patterns were noted in English and Italian. The two languages appear to be similar both in the types of non-literal language that is used, and in its grounds: both show interactions between metaphor and metonymy, and both draw on roughly the same small set of body-mind mappings.

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