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Hands and manipulations in the grammar and cognitive systems of English

Cécile Billioti de Gage

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Université Michel de Montaigne Bordeaux 3

Università L'Orientale Napoli

École Doctorale Montaigne Humanités (ED 480)

THÈSE DE DOCTORAT EN ETUDES ANGLOPHONES

Hands and manipulations in the grammar and cognitive systems of English

**Mains et manipulations dans la grammaire et les systèmes
conceptuels de l'anglais**

**Mani e manipolazioni nella grammatica e i sistemi
concettuali della lingua Inglese**

Présentée et soutenue publiquement le 11 juin 2012 par

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This study deals with the presence of physical and symbolical hands in the grammar and the conceptual structures of English. The role of the hands in the metonymical and metaphorical conceptualization of more or less abstract notions will be highlighted. More generally, this raises the question as to what the role of the hands (physical and symbolical) is in the structures of the English language and in thought. To answer this question, a quantitative study of the written British National Corpus (BNC) mostly, has been made, in which polysemous terms relating to body parts and body part movements, have been searched and classified according to their literal, metonymic, and metaphorical uses.

This study will allow for the exploration of the hypothesis of the Idealized Body of Cognition (Lapaire 2008), which works on abstract materials and spaces with imaginary hands. It will also allow for an exploration of the way conceptualization of the body works by “decomposing” its meaning. The consequences such conceptualized uses of the body may have in grammar will also be explored. Grammaticalization (Traugott 2000) will show how body parts and their prototypical activities may be integrated in grammatical systems. This latter are not autonomous, inscribing in their forms the physico-cultural experience of the environment.

Keywords: polysemy, prototypicality, conceptualization, metaphor, metonymy

Cette étude porte sur l’inscription physique et symbolique des mains dans le système grammatical et conceptuel de l’anglais. Une attention particulière a été portée au rôle des mains dans les conceptualisations métonymique et métaphorique de notions plus ou moins abstraites. De façon plus générale se pose la question du rôle des mains (physique et symbolique) dans l’organisation interne de la langue et l’expression de la pensée. Pour répondre à cette question, une étude quantitative du corpus écrit British National Corpus (BNC) a été faite, dans lequel des morphèmes polysémiques évoquant les parties et mouvements du corps ont été classés, en confrontant leurs utilisations littérales, métonymiques et métaphoriques.

Notre recherche a permis d’explorer l’hypothèse d’un “corps symbolique de la cognition” (Lapaire 2008) opérant sur des matières et des espaces abstraits, avec des mains imaginaires. Elle a aussi permis d’explorer la manière dont la conceptualisation métonymique et métaphorique de ces morphèmes “fonctionne”, en “décomposant” le sens conceptuel de ces derniers. Les effets grammaticaux qu’entraînent une telle utilisation conceptuelle ont également été analysés. La grammaticalisation (Traugott 2000) permet de montrer comment les parties du corps et leurs activités prototypiques sont intégrées aux systèmes grammaticaux. Ces derniers ne sont pas autonomes, la grammaire inscrivant dans ces formes l’expérience physico-culturelle de l’environnement.

Mot-clés: polysémie, prototypicalité, conceptualisation, métaphore, métonymie

Questo studio tratta della presenza della mani, fisiche e/o simboliche, nella grammatica e nelle strutture concettuali della lingua Inglese, in particolare, saranno evidenziate le loro concettualizzazioni metonimiche e metaforiche, più o meno astratte. In generale, si tratta di analizzare il ruolo delle mani (fisiche e simboliche) nelle strutture della lingua Inglese e nel pensiero. A tal fine, lo studio si è basato su una ricerca quantitativa della British National Corpus (BNC) che ha classificato i termini polisemici riguardanti parti del corpo ed i relativi movimenti, a secondo del loro uso letterale, metonimico o metaforico.

Questo studio si pone come obiettivo quello di esplorare l’ipotesi di un corpo simbolico della cognizione (Idealized Body of Cognition, Lapaire 2008) che agisce su materiali e spazi astratti con “mani immaginarie”. Non solo, ma anche di esplorare la maniera, in cui la concettualizzazione del corpo “funziona”, “scomponendo” questo senso concettuale, fino ad indagare sulle conseguenze che tali usi concettuali del corpo hanno nella grammatica. La grammaticalizzazione (Traugott 2000) mostrerà come parti del corpo e le loro prototipiche attività possono essere integrati nei sistemi grammaticali, quest’ultimi non sono autonomi e inscrivono nelle loro forme l’esperienza fisico-culturale dell’ambiente.

Parole chiave: polisemia, prototypicalità, concettualizzazione, metafora, metonimia

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INTRODUCTION

This dissertation deals with a cognitive approach to “hands and manipulation” in the conceptual structure of English. It will be studied from a corpus-based analysis of body part terms.

In addressing the subject matter identified by the title, the first hypothesis is that language structure is the product of our interaction with the world that surrounds us, so that our basic bodily experience of the world, such as tactile perception, is “seen” in the way we speak, write or more generally communicate. Tactile perception mainly involves the hands in many types of touching events, such as manipulation, which deal with the interaction of the body part hands and the objects around us. This interaction between objects and the hands (or, more generally, the body) leads to a better understanding of the world through touch. This understanding of the world allows us to conceptualize, or mentally represent, the object by means of a sign. As such, the language user not only produces signs, but interprets the world by means of signs, so that the language he/she uses, reflects his/her own subjective understanding of the world, according to his/her social or psychological identity. “The world of our experience is a world represented in thought” (Parker, 2004: 6. A subjective use of language may also be perceived on a smaller scale, since language is a means of communication, the function of which is to convey meaning.

The second assumption is that meaning conveyed by communication is related to language structure, or in other words, that the forms used to express meaning in language are motivated and not arbitrary. Thus, the use of the same form may appear in different syntactic structures and convey different meanings; such as in “*push*” in: *He pushed the door open* (moved by the means of the hand), *They pushed her into despair* (caused to be in a state of), and *His mother pushed him to get a job* (urged, forced to); the same form, with the same general syntactic structure, may also convey different meanings in different types of context, as observed in “*manipulation*” in: *manipulation of the fragments of a broken bone* (treating by the means of the hands) or *manipulation of someone’s values* (controlling by psychologically insidious means). The term *manipulation* is derived from latin ‘*manipulus*’ (“handful”), which is itself derived from ‘*manus*’ (“hand”), and is associated with both physical and psychological type of meanings. The use of this same form may be motivated by similar semantic features (process of change and final control of the manipulated object), which may be identified thanks to personal knowledge of English, native

speakers' intuitions, and diachrony. Highlighting these similar features allows the grouping of different situations together.

This “grouping” idea has first been highlighted by conceptualism, which suggests the importance of our cognitive ability to group or categorize entities that may appear different on the surface, or, as suggested by Taylor (2003), to see sameness in diversity. A word and the range of entities to which it may refer are mediated by a mental entity, i.e. a concept (Taylor 2003). This mental entity or concept is a mental representation of a fusion of actual experienced objects, in which certain qualities are retained and internalized as defining these objects while others are ignored. A mental model, which is made up of interconnected concepts, is a conceptual structure. For instance, by knowing the concept “dog” and the meaning of the word *dog*, we are able to categorize the entities *Labrador*, *poodle*, and *German shepherd* as dogs. Furthermore, concepts would not be created arbitrarily but would be based on our perception of what the world is ‘really’ like (Taylor 2003). Skemp (1979) also claims that knowledge is the name we give to conceptual structures built from, and tested against, our own experiences of actuality. The idea of grouping is also highlighted by polysemy (association of a word with two or more distinct meanings), which is linked to “conceptual transfer” (Heine 2004: 7) by which a form that was first associated with one meaning, is extended to denote other meanings. This transfer is meant to be explained diachronically and to be unidirectional, in the sense that it generally goes from lexical meanings to more grammaticalized ones, and from concrete meanings to more abstract ones. The idea of grouping will be discussed further in the first part of this dissertation.

The body is the “tool” that allows us to interact with the environment: hands for touching and manipulating, legs for movement, eyes for seeing, mouths for ingesting, etc. In this dissertation, nouns referring to body parts directly or indirectly involved in touching will first be studied. To understand how these body parts are directly or indirectly involved in touching, it seems necessary to understand first how the body is conceptualized in language. A dominant view is that body parts are named and categorized according to visual perceptual discontinuities (e.g., Andersen 1978; Biederman 1987; Brown 1976; Lakoff 1987), or visual-based partitioning, with parts lower in the hierarchy being smaller than parts higher in the hierarchy. Action provides another basis for body part segmentation and would represent a functional, as opposed to a spatial, organization of body parts. If I raise my arm, my hand follows. But if you tap me on my arm, this does not tell me anything about the sensation in my hand (Majid 2010: 60, in Malt & Wolff 2010). So body parts are also named and categorized according to tactile- and motor-based partitioning. In these visual,

tactile and motor systems, joints appear to be landmarks for segmentation of the body. As Bermudez (1998: 156) argues: “Individual body parts are paradigmatically defined in terms of hinges¹. The forearm, for example, is the volume between the elbow and the wrist”. The body part terms that will be studied in this dissertation are: the typical body part involved in touching and manipulating, that is, the hand; smaller body parts that are part of the hand (that is, the palm, fingers and fingertips); the body parts that are joined to the hand (that is, the arm, which is higher in the hierarchy of body partitioning and thus more indirectly involved in touching); and hinges that identify the segmentation of hand parts (the knuckles), the segmentation of arm parts (the elbow); and the segmentation of the body parts arm and hand (the wrist).

Verbs referring to dynamic or non-dynamic situations implying the direct or indirect use of these body parts (*touch, push, handle, seize, manipulate, and wield*) will then be studied. According to the dynamic or non-dynamic situations, these verbs refer to state, process, or action verbs². Furthermore, these dynamic or non-dynamic situations will be described by dynamic and static archetypes³. While dynamic archetypes are easily identified in situations in which *push, seize* and *manipulate* are used, it is less obvious with *touch, handle, and wield* which refer to more static or passive situations.

This dissertation is based on a corpus analysis of the body part terms discussed above, and shows how the body parts and the perceptual tactile experience that is achieved directly or

¹ According to bodypart partitioning based on hinges, a three-dimensional hierarchical model of body parts representation has been created: 1. Level A: the BODY, which is universally labelled (Brown, 1976; Andersen, 1978); 2. Level B: often considered the “basic level”, is composed of HEAD, TRUNK, ARM (and HAND), and LEG (and FOOT), which are universally labelled (Andersen, 1978; also Brown, 1976; Wierzbicka, 2007), even if the content in parentheses suggest a variation in naming across languages; 3. Level C: UPPER-ARM, LOWER-ARM, HAND, UPPER-LEG, LOWER-LEG, and FOOT.

² According to Vilnat (2005)’s classification of verbs, 1. a state describes a relationship between entities, 2. a process describes a change and is considered as states in becoming or in finishing, and 3. an action is a process which makes explicit the entity that causes the change.

³ Cognitive archetypes is a concept introduced by Desclès (1990) and are cognitive representations based on visual perception of space (positions of objects relatively to localities, interiorities/exteriorities, etc.) and perception of stabilizations (states) or changes (processes/events) in time. Basically, an archetype describes abstract relationships between objects and situations. These relationships are expressed in function of the degree of control that an object or an actor has on the situation. 1. Static archetypes describe static situations and are defined using a set of *static operators (localization, possession, identification, etc.)*. 2. Dynamic archetypes describe dynamic situations. The most general dynamic archetype is formed by a change from an initial situation to a final one through a transition process. The transition comprises three temporal zones: *before transition, during transition, and after transition* (Desclès 1990, quoted in Haddad & Moulin 2007: 71, in Polovina & Hill 2007).

indirectly by the means of these body parts are “present”, and structure language. In the first part, the methodology that has been followed throughout the analysis is presented, as well as the definitions of concepts and cognitive theoretical background necessary to make this study; the second part presents the analysis of polysemous nouns referring to the body part *hand* or verbs referring to tactile perception, and, in particular, the analysis of the different meanings of these words based on conceptual transfer; finally, in the third part, the conceptual meaning of these words (meanings based on conceptual transfer) is focused on: how significant it is in the English language, and why and how does it appear through language. As such, the hypothesis of an Idealized Body of Cognition (IBC) (Lapaire 2008) is posited, the way such an IBC works in language is discussed more generally first and more specifically after (by focusing on specific English constructions), and the effects such an IBC has in grammar are shown.

1 METHODOLOGY OF CORPUS-BASED ANALYSES OF BODY-PART TERMS BASED ON A COGNITIVE APPROACH

1.1 The corpus notions

This dissertation is based on a corpus analysis of body part terms in English language. Corpus linguistics, which has been an important subset of applied linguistics for the past decade, as a result of the growing importance of computers and progressive adaptation to computerization, is now more and more employed in various sub-domains of linguistics. It has proved to be an efficient and useful method for language analysis, as it allows larger amount of source material to be analysed. S. Conrad defines corpus linguistics as follows (2003: 385):

Corpus linguistics is an approach to investigating language that is characterized by the use of large collections of texts (spoken, written, or both) and computer-assisted analysis methods. The approach encompasses great diversity in the kinds of research questions addressed, the specific techniques employed, and the contexts in which it is applied. Furthermore, because it is a relatively new approach, new corpora and new techniques are constantly under development.

The large collections of texts refer to a corpus that can be accessed through a concordancer.

1.1.1 The notions of corpus and concordancer

1.1.1.1 Corpus

A corpus is based on written or spoken texts, occurring naturally in language, and may take the form of sentences or utterances taken from books, newspapers, magazines, conversations, etc., as suggested by D. Crystal (1991), who defines a corpus as:

A collection of linguistic data, either written texts or a transcription of recorded speech, which can be used as a starting-point of linguistic description or as a means of verifying hypotheses about a language.

Differences between a text and a corpus, as analysed in a concordance, need to be made, though.

First, on the one hand, a text requires an “horizontal” reading from left to right, so that cohesion arises from circumspect use of syntactic devices such as punctuation, to juxtapose words and larger syntactic units. On the other hand, a corpus is read “vertically”, so that a pattern of repetition and co-selection arises from the Key-Word-In-Context (KWIC) format of the text, at the centre of which a node word appears (see also Tognini-Bonelli 2001). This KWIC format thus sorts and aligns, from a corpus, a list of texts in which the node word, or the word to be analyzed, appears. Furthermore, the term *co-selection* applies to words that collocate, keep company, are associated with, or partake in syntagmatic relations. The term *collocation* was first used by the British linguist J. R. Firth, who considered the meaning of a word is partly determined by its contextual environment, and proposed a “meaning by collocation” (Firth 1957: 194). Sinclair refers to collocation as “the occurrence of two or more words within a short space of each other in a text” (1991: 170). According to this definition, this term may apply to the occurrence of two or more lexical words only, or to the occurrence of both lexical and grammatical words. However, this later type of collocation is generally called “colligation” (Firth 1957; Bahns 1993; Hoey 1997), while “collocation” is used for the former type only, that is, for the co-occurrence of lexical words (Sinclair 1991; Louw 1993).

Second, another difference between a text and a corpus pertains to the function this latter has. On the one hand, the role of a text is essentially functional and specific: it aims at semantic cohesion and communication, which are achieved by the means of the information gathered from the co-text—which I would define as the relevant written text or discourse of which a syntactic element (word) or unit (phrase, sentence) is part, but also the specific situational and cultural context. As such, a text is an instance of the Saussurian term *parole*, this latter being a concrete use of language; or, more exactly, the use of specific signs and elements that are part of a language. On the other hand, the role of a corpus is essentially formal and general: it aims at analyzing a sample of language and making generalizations about language as a whole by the means of the information gathered from this sample. As such, a corpus is a means to understand what Saussure has called the *langue*, that is, the whole system of a language, based on a large number of elements which achieve a particular meaning according to their forms and arrangements (see also Tognini-Bonelli 2001).

The table below summarizes the differences between text and corpus:

Text	Corpus (as analysed in a concordance)
Whole text	Parts of texts
Horizontal reading	Vertical reading
Specific use of language (see “parole”)	Means for understanding the general system of a language (see “langue”)
Unique event	Repeated event
Communicative role: understanding thanks to semantic cohesion	Formal role: understanding thanks to formal patterning (repetition and co-selection)
Read as an individual use of language	Read to determine a “social” use of language (language used by a community of speakers)
“Subjective” reading: specific, communicative, individual	“Objective” reading: general, formal, social

These differences between a text and a corpus are made to highlight the difference in the analytical approach of these two sources. However, a text is part of a corpus itself. Indeed, a corpus is based on text sources, so that specific texts are available and retrievable in the corpus as well. As such, the corpus proves to be a privileged tool for the linguist, since it allows to simultaneously access the specific text, which can be expanded on the horizontal axis of the concordance, but also the repeated pattern of an occurrence on its vertical axis. Thus, the specific word or expression (*collocate* or *conccgram*) that the concordance search depends on—called “node word(s)” or “target word(s)” here, is analysed according to its syntagmatic patterning (relations between meaning and syntax) and paradigmatic frequency (frequency of use in the corpus). Note that the specific context of the situation is part of the syntagmatic analysis of a target word or expression, and proves to be an important element to take into account in analysis and interpretation.

Moreover, a corpus needs to be distinguished from a library, this latter being an arranged collection of written and spoken texts. The difference between the two consists in their primary

purpose. While the primary purpose of a library lies in preserving text, the purposes of a corpus can be various, according to the scope of the linguistic study: identifying the kind of language used in a specific subject area, verifying hypotheses about a particular language theory, or even finding out new patterns of language use. The possible purposes of a corpus have been summarized in the statement below taken from the British National Corpus (<http://www.natcorp.ox.ac.uk/using/index.xml>):

The purpose of a language corpus is to provide language workers with evidence of how language is really used, evidence that can then be used to inform and substantiate individual theories about what words might or should mean. Traditional grammars and dictionaries tell us what a word *ought to mean*, but only experience can tell us what a word *is used to mean*. This is why dictionary publishers, grammar writers, language teachers, and developers of natural language processing software alike have been turning to corpus evidence as a means of extending and organizing that experience.

The use of a corpus proves to be a useful descriptive tool, a necessary and an efficient means to examine any concept of a language. It allows hypotheses to be better examined, as a larger amount of natural language instances taken from various contexts is available for the *concordancer*.

1.1.1.2 *Concordancer*

A concordancer is a computer program (such as Cobuild or Lextutor), which retrieves instances of words, structures or expressions in a large body of texts. These instances will be shown in a list called a “concordance”. The concordance search consists in entering the word, structure, or expression that needs to be analyzed—a target word; this latter will appear in its immediate co-text. The concordancer also allows one to show the collocation and frequency of the target word. Indeed, as discussed before, the specific text that the target word is part of can be accessed and expanded on the horizontal axis of the concordance, while the word frequency or repeated pattern is accessed on its vertical axis. Thus, by using a concordance, this word can be analyzed according to its syntagmatic patterning and paradigmatic frequency (see also the corpus definition above). For instance, analyzing the syntagmatic patterning of a word could consist of examining the contexts in which it appears, its sense in each occurrence, the possible link between its sense and collocation in the general sense of the term—that is, between collocation and colligation. Furthermore, analyzing

the paradigmatic frequency of this word could consist of identifying the number of occurrences in which the word appears in a particular form or syntactic structure, so that its profile can be evaluated in relation to a norm.

As such, the use of a concordancer allows us to examine a larger amount of data, the access of which would prove to be more difficult manually. A manual search of such a data would also prove to be time-consuming.

Moreover, the use of the concordancer allows a better understanding of how a word is used in language, especially when it deals with the grammatical aspect of that word. Apart from showing an objective picture of its use in language, it can be used to catch the inner patterns of the word or thought processes that lie behind this latter, with the help of more detailed linguistic investigation, such as a morphological analysis of a lexical word—such as affixation to a lemma or stem—and of the native speaker intuition about the language, which could also reveal useful information, and help in the interpretation.

1.1.1.3 Examples of corpora and concordancer

There are now a great number of corpora available, among which the British National Corpus and Brown Corpus, which are among the most notable English language corpora, and upon which the corpus analysis of this study will be based.

a. The BNC

The following description of the BNC is retrieved from the BNC queries page (<http://www.natcorp.ox.ac.uk/corpus/index.xml>):

The British National Corpus (BNC) is a 100 million word collection of samples of written and spoken language from a wide range of sources, designed to represent a wide cross-section of British English from the later part of the 20th century, both spoken and written.

The wide range of sources referred to in this description on which the written and spoken parts of the BNC are based, are described as follows:

The written part of the BNC (90%) includes, for example, extracts from regional and national newspapers, specialist periodicals and journals for all ages and interests, academic books and popular fiction, published and unpublished letters and memoranda, school and university essays, among many other kinds of text. The spoken part (10%) consists of orthographic transcriptions of unscripted informal conversations (recorded by volunteers selected from different age, region and social classes in a demographically balanced way) and spoken language collected in different contexts, ranging from formal business or government meetings to radio shows and phone-ins.

This above description demonstrates that a large amount of data is examined through a corpus; the keyword is thus shown in various contexts, which allows a better understanding of this latter. A corpus also allows one to identify the context best adapted to the use of the word, since the language employed in an academic book is expected to be different from the one employed in a popular fiction for instance.

As mentioned in the above description, the BNC is composed of a written and a spoken part, the written one being the most important one (90% of the BNC). A spoken-based corpus would be worth being analyzed. Speaking is viewed as a “dynamic form of transfer” (Ferraro & Palmer, 2005) in which a direct utterer–hearer relationship is shared. This allows the utterer’s words to be directly transferred, so that the message is more spontaneous. Furthermore, oral signals, such as intonation and gestures, help in the interpretation of the message.

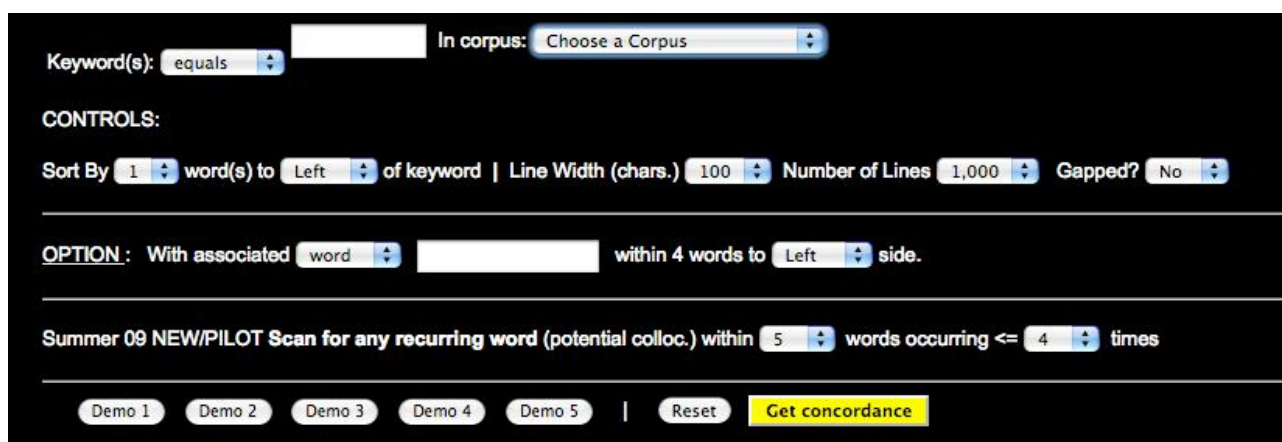
The corpus analysis of this study will be based on media, and on the written part only, for practical reasons, especially. Indeed, the written part of the BNC is supposed to be the larger part, so that a larger amount of instances can be examined; written sources are more easily retrievable, so that a larger amount of contexts are shown, which allows to better catch the inner patterns of a word; furthermore they may prove to be more easily analyzable, as they generally profile written texts, in which are employed the same set of written rules shared by the larger community.

b. The Brown Corpus

The Brown Corpus constitutes the first major electronic corpus that was compiled for linguistic research. It was created in 1961, and is made up of one million words of written American English. It consists of 500 samples each of 2.000 words from various genres, such as press, reportage, fiction, government documents (Meyer 2002: xii), excluding verse and drama.

The resort to this corpus in this study is mainly due to the necessity of examining alternative sources in cases of doubts regarding a target word frequency of use (see also corpus-based analyses of the target words: *elbow* and *knuckle*). It has been chosen as an alternative to the British English-based corpus BNC.

Both corpora have been accessed through the Canadian concordancer LexTutor (http://www.lextutor.ca/concordancers/concord_e.html), from which the basic concordance search is done by first selecting a corpus from a pulldown list, and then typing the keyword to search for in the first box, as shown in the following screenshot of the page:



The screenshot displays the LexTutor concordancer interface. At the top, there is a 'Keyword(s):' field with a dropdown menu set to 'equals' and an empty text input box. To the right is an 'In corpus:' dropdown menu with the text 'Choose a Corpus'. Below this is a 'CONTROLS:' section with several settings: 'Sort By' set to '1', 'word(s) to' set to 'Left', 'of keyword' set to 'Left', 'Line Width (chars.)' set to '100', 'Number of Lines' set to '1,000', and 'Gapped?' set to 'No'. An 'OPTION:' section follows, with 'With associated' set to 'word', an empty text input box, 'within 4 words to' set to 'Left', and 'side.' at the end. At the bottom, there is a 'Summer 09 NEW/PILOT Scan for any recurring word (potential colloc.) within 5 words occurring <= 4 times' section. The bottom navigation bar contains buttons for 'Demo 1', 'Demo 2', 'Demo 3', 'Demo 4', 'Demo 5', a vertical separator, 'Reset', and a highlighted 'Get concordance' button.

The corpus-based analysis of this study will be based on a basic concordance search. Furthermore, only the lemma of the keyword to search has been inserted (except for *hand*), so that affixation is not excluded from the analysis.

1.2 A cognitive corpus-based analysis

The target words to be studied in this dissertation are terms referring to the body; these are single lexical words: nouns referring to body parts themselves, and verbs referring to events in which the body is involved. The use of a corpus allows for the analysis of these terms as they are naturally employed in the English language and to examine the various contexts in which they are used, so that different meanings of the same term can be identified. At this point, a major topic typically discussed in cognitive linguistics will be of interest in this study, namely, *polysemy*.

1.2.1 Polysemy

Within the cognitive framework, polysemy deals with a systematic relation of meanings (Lakoff 1987: 316; Johnson 1987: 193). According to this cognitive framework proposed by Lakoff (1987), it is not so much the different or multiple meanings of a term that is the point in focus, but rather the fact that these meanings are related not in an arbitrary, but systematic and natural, way. As such, and as suggested by Lakoff (1987), polysemy needs to be understood as “categorization”, which is based on the idea that related meanings of words form “categories”, this latter notion being comprehended quite differently from the classical Aristotelian approach to categorization.

1.2.1.1 Categorization: from the classical to the Prototype approach

According to the classical Aristotelian approach, a category can be referred to when necessary and sufficient features are present. These features are first binary, that is, based on an either-or definition of a category, so that an entity either belongs to a category or does not; they are also based on an all-or-nothing definition, so that an entity needs to possess all these features to belong to a category; this all-or-nothing definition of a category implies that all members of a category have an equal status.

Further features have then been added by phonologists, who enriched this Aristotelian approach and constructed an autonomous conception of phonology according to which the concept

of phonology is external to, or independent from, real-world knowledge or experience. Thus, features defining phonological categories are said to be primitive, that is, composed of the most basic elements of the sound structure; they are also universal and are part of a fixed inventory of features which characterize the sound-producing capacities of humans (Chomsky and Halle, 1968: 297); thirdly, they are abstract, such as the [VOICING] feature that allows for the differentiation of the unvoiced consonant /f/ from the voiced /v/, for instance, and more generally make comparisons and find relations between categories. The Generative transformational approach then adds that features are innate, which would imply the knowledge of the fixed inventory of universal features are genetically inherited.

First introduced in the context of phonology, these features were then introduced in the context of syntax and semantics. On the one hand, in the context of syntax, while two binary features are introduced for lexical categories, that is, [\pm NOUN] or [\pm VERB] (Chomsky, 1981: 48), four combinations of these features give rise to the four main syntactical categories: [+NOUN, -VERB] for nouns; [-NOUN, +VERB] for verbs; [+NOUN, +VERB] for adjectives; and [-NOUN, -VERB] for prepositions. On the other hand, in the context of semantics, features allow one to designate an entity by a word, provided that the entity possesses all the features defining the aforesaid word. For instance, the word *bachelor*, which represents a “man who has never married” is defined by four features (Katz & Postal, 1964: 13f): [HUMAN], [MALE], [ADULT], [NEVER MARRIED]. All these four features need to be possessed by an entity to be designated a bachelor. As well as in the context of phonology, in the context of semantics, this feature approach allows one to find relations between words and sentence meanings, for example, which is thought to be an essential requirement of any semantic theory (Kempson, 1977: 3f). Thus, a *bachelor* and a *spinster*, even if two different words, are related, in so far as they share the three common features [HUMAN], [ADULT], [NEVER MARRIED].

On the one hand, this feature-based classical theory of categorization provides a method to better apprehend our environment by reducing its complexity. Then, “by knowing the category to which a thing belongs, the organism, thereby, knows as many attributes of the things as possible” (Rosch, 1975c: 197). It is part of our cognitive abilities to categorize to better understand the world we live in. As suggested by Rosch (1978: 28), “the task of cognitive systems is to provide maximum information with the least cognitive effort.” On the other hand, this feature-based classical theory fails to provide a reliable description of our environment, especially by excluding experience of the real world from the analysis. Indeed, for instance, Cruse’s definition of the

concept KNIFE (2000: 37), by using other primitive concepts, such as “an instrument with a blade and a handle used for cutting”, fails to distinguish it from other types of cutting instruments, such as a blade or chisels. Furthermore, even if a concept such as ADULT, is classically defined as “a person who has reached their eighteenth birthday”, the notions of maturity and responsibility seems to better apply to such a concept, when based on everyday experience.

The idea of *family-resemblance* follows. According to this idea, a concept forms a category or “family” of meanings based on similarities shared by real-world entities referring to this concept, no matter what type of similarities it deals with (overall similarities or detail-based similarities). For instance, Wittgenstein (1978) defines what the concept of GAME is, by identifying the similarities shared by entities which are commonly called ‘games’, such as card-games, board-games and ball-games. Features such as the winning and losing condition, competition, or skill may be common features defining some entities that are called games, but may not be the case with others. Thus, this idea of family resemblance allows for the categorization of entities according to their attributes⁴, or experience-based features, but fails to consider some entities that are better examples of a category than others. This leads to the idea of *prototypes*. Empirical evidence based on a series of experiments about the categorization of household receptacles, like cups, mugs, or bowls, which is reported by Labov (1973), shows that depicted objects representing receptacles are distinguished, and differently named ‘cup’ or ‘bowl’ according to the shape the depicted object has, even if there is no clear boundary between the categories ‘cup’ and ‘bowl’. The results of this experiment show that categorizing an entity is not so much identifying the attribute which makes an entity be part of a category, but how closely-related this attribute is to representative attributes of the category. In other words, the attribute that mostly distinguishes a cup from a bowl is the dimension: while a cup represents a container that is as wide as it is deep, a bowl represents a container wider than it is deep. Categorizing an entity is thus a matter of how closely-related this entity is to representative examples of the category. These representative examples of the category are named prototypes.

Empirical evidence about categorization in favour of the idea of prototypes are then confirmed by psychologist Eleanor Rosch’s experiments concerning natural structures of categories,

⁴These refer to real world physical- or functional- based features. Physical-based attributes may refer to the size, dimensions, shape of an object for instance. Functional-based attributes refer to the way in which this object is used or the aim it has in everyday use. Interactional-based attributes are also retrieved and refer to how we interact with the object (for instance, in the case of household receptacles, how the object is handled) (see Taylor, 2003: chapter 3). Wierzbicka (1985) also points out that attributes do not deal with inherent properties of the object itself, but rather with the role of the object within a particular culture.

and, more exactly, about the way in which some entities may be considered good examples of a category or prototypes. She introduces the notion of *priming* following the results, according to which category names activate the names of more prototypical members of the category and deactivates the more marginal ones (Rosch 1975b). Moreover, degrees of membership are identified, according to the frequency and order with which category members are named (Rosch, 1973b). According to these results, Rosch creates *level of categories* (Rosch 1973), which basically correspond to the kind of hierarchical relations found in taxonomy⁵. More precisely, the three most important levels are set up, in which larger, more general, categories are divided into smaller, more specific, categories: the “superordinate level” (“furniture”, for instance); the “basic level” (“table”); and the “subordinate level” (“kitchen table”). According to these levels, an entity may be understood in many ways depending on the level that is referred to; it may be described more generally or specifically, with more general or specific features. Rosch states that “the basic level is psychologically special because it is the level above which much information is lost and below which little information is gained” (Rosch 1973, cited in Goldstein, 2005: 280). The basic level of categorization is considered the more cognitively and linguistically salient level, since it is the basic level of categorization at which people normally conceptualize things as perceptual and functional *gestalts*⁶ (Rosch et al. 1976) and name them. Furthermore, in addition to their salience, basic level terms appear to be short and structurally simple, that is, monomorphemic, while terms below the basic level appear to be compounds, consisting of a basic level term plus the modifier, and thus longer and structurally more complex.

1.2.1.2 A semantic network-based polysemy

By claiming that polysemy needs to be understood as categorization, so that related meanings of words form categories (see above), Lakoff (1987) introduces a family resemblance type of approach based on a prototype, and claims “a polysemous lexical item is a radial category of

⁵ In taxonomy, hierarchical relations are not arbitrary, as they refer to a specific kind of hierarchical relations, the ones that retrieved in subcategory/category pairs. In taxonomy, subordinates therefore refer to a “sub-kind” of superordinates. For example, “car” and “bus” are taxonomies of “vehicles”, because “car” and “bus” are types or “kinds” of vehicles. “Table” and “wardrobe” are taxonomies of “furniture”, because “table” and “wardrobe” are types of furniture. Taxonomy is considered a type of hyponymy.

⁶ Gestalt is derived from German and defined as “essence, or shape, of an entity’s complete form”. This concept was first introduced in contemporary philosophy and psychology. Basically, Gestaltism or Gestalt psychology principle states that perception allows physical objects to be seen in their entirety as a global construct before being seen in their individual parts.

senses” (Brugman & Lakoff 1988: 478). More precisely, according to this definition, lexical items or words represent complex or radial categories of distinct yet related polysemous meanings organized or structured with respect to a prototype that he calls *central meaning component*. Category members (distinct related senses) are related to the prototype by “convention”, that is, by the way in which they are used, rather than being “generated” by principles of language use. As such, these category members are stored in the mental lexicon as a complex structured category of meanings and senses. As part of a single category, these senses will be more or less related to the prototype, some being more prototypical (or central) than others, being less prototypical (or peripheral). This radial category of senses was developed in the “full specification of senses” approach (1987) and allows nearly 100 different senses to be identified for the preposition *over* (Brugman & Lakoff 1988). Some of these senses being considered more prototypical than others. For instance, the ABOVE sense of *over* in a sentence, such as, “*The plane is over the hill*” is considered by most native speakers a “better” example of *over* than the CONTROL sense, in a sentence, such as, “*She has strange power over me*”.

As such, polysemy is the result of the extension of Idealized Cognitive Models (ICM), which may be defined as an organized cognitive structure or complex structure gestalt which serves to represent reality from a certain perspective (Lakoff 1987). In other words, an ICM is a concept (or cluster of related concepts) that defines our knowledge of a category. Features that most strongly characterize the category are described in an ICM. For instance, the ICM of the word *window* can take three different meanings: “an opening in the wall”, “a frame fitting into the wall” and “the glass filling the frame fitting into the wall”. These three meanings are related and form a natural category of senses.

Taylor (1995: 108) compares this radial category of senses as *meaning chain*, in which a polysemous category has a chain of related meanings; the different meanings A, B, C, D conveyed by a concept are related to one another “in chain”, so that A is related to B in virtue of one or some shared attribute(s); B is in turn related to C and becomes a source of a further extension to meaning C and so on. This meaning chain is represented in the schema below:

$$A \rightarrow B \rightarrow C \rightarrow D \dots$$

Langacker (1987) also argues that a lexical item forms a network of interrelated senses, where “some senses are prototypical, and others constitute either extensions or specializations of a prototypical value or of one another.” (Langacker 1990:35). Langacker introduces an important

element in the definition of semantic network, as he makes distinctions between senses derived from the prototypical ones. Indeed, according to this definition, extended senses should touch on senses that are distinct enough from the prototypical ones to be considered as “new” conventionalised senses being mentally represented or conceptualized independently of the prototypical one from which they derive. On the contrary, “specialized” senses should touch on senses that are not distinct enough from the prototypical sense, so that they can be considered as “developments from the prototype” (Langacker 1990:37) rather than distinct senses.

Tyler & Evans (2001) discuss semantic network as well, and recognize the fact that distinct senses derive from a prototypical one that they call the *Sanctioning Sense*, this latter corresponding (typically, but not inevitably) to the earliest diachronical sense. As such, a dynamic “semantic chain” (my terms) would be created through time, in which meanings or senses associated with words change over time according to the way in which words are used. Even if derived from an antecedent sense, new senses are created and become conventionalized at the synchronic level, so that they can be mentally represented or conceptualized independently of the antecedent or derived meaning. This leads to the conclusion that “new senses can, over time, and through use, come to be reanalysed as being no longer related to the original sense” (Evans 2003:79). Tyler & Evans propose the Principled Model approach, which “captures this dynamic aspect of meaning-extension by recognising that not all senses associated with a particular form are recognized by the language user as being related at the synchronic level” (Evans 2003:79).

1.2.1.3 Problem raised by the semantic network-based polysemy

The problem raised by a semantic network of senses is the flexibility of meaning, which does not allow an objective analysis of polysemy. First, it may be pointed out that such a network of senses makes the boundaries between polysemy and homonymy “fuzzy”. The distinction between the two terms is generally based on historical criteria. Thus, “identical forms with historically related meaning are polysemic items” and are distinguished from homonyms “whose forms happen to be identical for historical reasons but whose meanings are etymologically unrelated.” (Lewandowska-Tomaszczyk, in Geeraerts & Cuyckens 2010: 142). However, what first appears to be a case of homonymy may be reanalysed as a case of polysemy, which implies two senses to be “newly” conceptually-related. Langacker (1987: 387) gives the following example:

Sometimes, as with the central senses of *tree*, the similarities are cognitively salient and would likely be noticed even in the absence of common symbolization. In other instances, the resemblance is quite tenuous. Many speakers treat the meaning of *ear* implied by *ear of corn* as an extension from the prototypical value of ear as a body-part term; it is doubtful that the concepts would ever be compared were it not for their identical symbolization. The cognitive distance and entrenchment of such categorizing relationships are obviously variable. Homonymy represents a limiting case, where the comparison of two identically symbolized concepts reveals no similarity that is salient or plausible enough to establish a categorization achieving unit status. For a speaker who fails to notice special resemblance among the meanings of *bill* (proper name; request for payment; protrusion on a bird, cap, or platypus), the semantic units do not unite to form a network and are connected only via their common symbolic correspondent.

The converse case of reanalysis from polysemy to homonymy is also possible, as suggested by Taylor (1989) with *pupil* in *a pupil at school* and the *pupil of the eye*; and Blank (2003: 276) with French *voler* “to fly” and *voler* “to steal”, and with German *Schloss* “lock” and *Schloss* “castle”.

Furthermore, Sandra (1998) criticizes the lack of methodology in establishing a semantic network of senses, as based mostly on the intuition of the analyst. Lakoff’s “full specification of senses” approach (1987) that proposes a proliferation of more than ten senses for the preposition “over” for instance, was not to be considered a real theory, according to Sandra because of the lack of “a set of scientifically valid (decision) principles” (Sandra 1998: 371). Evans & Greene (2006) even point out that “full specification approach”, even if influential, shows a failure to distinguish between polysemy and vagueness⁷ (Evans & Greene 2006: 340). What Evans and Greene define as a “vague” expression is an expression whose meaningful component is influenced by the particular context on which it appears rather than being stored in semantic memory.

⁷ Vagueness is generally distinguished from ambiguity. The phenomenon of polysemy deals with a type of ambiguity in lexical meaning, since a lexeme may have several meanings which need to be identified after they have been contextualized. On the contrary, vagueness deals with “flexibility of use” (Löbner, 2002). It depends on how we personally conceptualize an item. People can consider things subjectively and therefore have a different “mental image” of the same concept. In other terms, people can conceptualize physical or abstract entities differently. For instance, somebody may consider a “baby” “a person in his/her early childhood”, while another one may consider a “baby” “a new born” depending on each person’s own conceptualization of “baby”. We can restrict or extend its meaning, according to the image we have of a “baby”. It is the same for other concepts like colors, as we may consider something more or less red, for instance. Furthermore, in the sentence “John is tall”, the meaning of the adjective “tall” is considered vague, because the degree of tallness is indeterminable. All these concepts tend to be part of a gradual process (i.e. gradual stages of human beings, different range of colors).

1.2.1.4 Methodology for the semantic-network-based polysemy

The cognitive semantic network theory raises the questions of how a prototypical sense is identified, how distinct senses are identified, and how and to which extent distinct senses may be derived from prototypical ones. These questions remain central to cognitive linguistic approaches to lexical semantics over the past ten years, and a methodology to answer these questions has been proposed.

To avoid analyzing the semantic network of a lexical item using mere intuition, Tyler and Evans (2001, 2003) establish a set of criteria to answer these questions, these criteria being then possibly applied to all lexical semantics analysis. Thus, as proposed by Tyler & Evans, the set of criteria to be applied for a meaning to be identified as a prototype are as follows:

- a) the earliest historically attested meaning
- b) predominance (in the sense of frequency of use of a particular sense)
- c) predictability in determining other senses: likely candidates for the sanctioning sense are those from which the other senses would most naturally be derived
- d) a sense that serves as a plausible cognitive antecedent
- e) a sense that relates to concrete human experience; that is, the synchronic lexical concept which best matches the lived experience referred to by the lexical item

In our study of manipulation terms, the identified prototypical sense will correspond to this set of criteria most of the time. The prototypical sense has been identified as the body part that referred to the term or the “easiest physical act” (my term) that can be done with the body part involved in the manipulation act. For instance, in the case of *finger*, the prototypical sense is the body part that refers to the entity *finger*. In the case of events implying the use of a body part, such as *manipulate*, the prototypical sense is considered the easiest physical act that can be done with the body part that is involved in the act of manipulating, that is “moving the hands or moving a concrete object with the hands in a skillful manner (in order to achieve something)”. This way of identifying the prototypical sense will primarily correspond to criteria (c) and (e) (as identified above), in the sense that the meaning from which other meanings are derived is assumed to contain a basic semantic feature that is understood most easily, so that further semantic features can be added to the derived meaning(s) and form complex semantic features that derive from the easiest one(s). Furthermore, a

“physical” act refers to a concrete human experience, in the sense that it implies a physical or direct interaction between the body parts involved and the real world or concrete objects that are part of the world. This will also correspond to (a), as the historically earliest attested meaning is assumed to be the one which has the most basic and most easily understood semantic feature, from which more complex semantic structure is created through concrete human experience.

Tyler and Evans (2001, 2003) have also proposed a set of criteria to be applied for a meaning to be identified as a distinct or extended sense, as follows:

- a) the *meaning criterion*: for a sense to count as distinct, it must contain additional meaning not apparent in any other senses associated with the term
- b) the *concept elaboration criterion*: the putatively distinct lexical concept will feature unique or highly distinct patterns of concept elaboration [see the selectional or collocational restrictions that apply to the term in Tyler and Evans 2001, 2003 and Croft’s (2001) *collocational dependencies*]
- c) the *grammatical criterion*: a distinct lexical concept may manifest unique or highly distinct structural dependences (see grammatical constructions)

It would be necessary that the Meaning criterion, as well as one additional criterion, be verified so that a distinct sense could be identified (Tyler and Evans 2001, 2003).

In our study of manipulation terms, the identified distinct sense will also correspond to this set of criteria most of the time. For an instance to be distinguished from the other, we will use the schema corresponded to that instance, so that the important semantic feature that distinguishes one instance from the other can be highlighted. For example, consider (1) and (2) below, extracted from the corpus of *hand*:

- (1) *...provided Mozart with a vehicle for his overwhelming genius, not least in those two miraculous finales, to Acts Two and Four, where formality of design goes **hand** in hand with the dramatic unfolding of the story, inspiring the composer to create some of his most complex structures.*(Corpus: 156, BNC_Written.txt at position 1295682)
- (2) *Our destiny is in our **hand** and we must make a move Black people situation must improve* (Corpus: 158, BNC_Written.txt at position 5346257)

The expressions *go hand in hand* in (1) and *be in one’s hand* in (2) are distinct senses derived from prototypical *hand* as a body part. Instance of *hand* in (1) corresponds to the schema

COLLABORATION IS HOLDING SOMETHING IN THE HANDS, while (2) corresponds to the schema CONTROLLING IS HOLDING SOMETHING IN HIS HANDS (see corpus-based analysis of *hand* in the following part). These two different schemas corresponding to two instances of *hand* throw light on two different additional meanings or semantic features, that are not apparent in both instances at the same time. Indeed, the Collaboration sense only appears in (1) and not in (2), while the Controlling sense only appears in (2) and not in (1), thus responding to Tyler and Evans' criterion (a).

Furthermore, let us consider the following examples, extracted from the corpus of *hand*:

- (3) *To be taken in **hand** and led, like being a child again, even without the innocence, a child...*(Corpus: 169, BNC_Written.txt at position 5485772)
- (4) *The former area champion was travelling abroad in 1992, but kept her **hand** in by riding a winner on the flat in the United States during August for Mr. Sheppard 's brother, Jonathan.*(Corpus: 162, BNC_Written.txt at position 391277)

In (3), “in” is a preposition placed before the noun *hand*, while in (4), “in” is an adverbial placed after the noun *hand*. This collocational situation has an effect on the semantics of the expression with *hand* (see also “semantic collocational restrictions” in Tyler and Evans 2001, 2003, and “collocational dependencies” in Croft, 2001). In (3), *hand* is metaphorically seen as landmark⁸, or the container inside which the trajector⁹ (Langacker, 1987: 217, 231) is enclosed. This gives control to the hand while the trajector is more passive. On the contrary, in (4), *hand* is the trajector this time, and “in” conveys the idea of containment in the sense of “connection”. In both sentences, the idea of containment suggested by “in” is not conceptualized the same way. While the preposition “in” suggests enclosure and passivity of the trajector in (3), adverbial “in” suggests connection with and knowledge of the “container” by the trajector, who thus has a more agentive role.

^{5 9} Trajector and Landmark schematically designate the profiled participants in a relational predication. In a physical description, the trajector is the “active” entity which is physically moving through a spatial trajectory, while the landmark provides a point of reference for locating the trajector. However, the use of these notions is not limited to physical description and dynamic types of relations, but rather points out to an asymmetrical type of relations between the trajectory and the landmark, according to which the latter provides a reference point with respect to which the former is evaluated or situated. (Langacker 1987: 231). The notions of subject and object is traditionally used to refer to the trajector/landmark type of relations, but these former notions are specific to noun phrases and apply to specific grammatical roles. The trajectory/landmark distinction is relational-based rather than nominal-based, so that the subject and object notions may be considered special cases of trajector and landmark respectively.

As suggested by Tyler and Evans' criteria (b) and (c), the collocational situation needs to be taken into account in the interpretation of meaning. As such, by easily making visible recurrent distributional features of a word, such as collocation and colligation, the use of a corpus may help distinguish the different senses of a polysemous word (see also Croft 1998; Fillmore & Atkins 2000; Kishner & Gibbs; Gibbs & Matlock 2001).

This cognitive-based corpus analysis of body-part terms will deal with the corporal analysis of polysemous words referring to body-parts, these words being considered categories of interrelated senses, according to the cognitive-based semantic network approach. As seen earlier when referring to Lakoff's analysis of senses of the preposition *over*, the ABOVE sense of *over* in a sentence, such as, "*The plane is over the hill*" is considered by most native speakers a "better" example of *over* than the CONTROL sense in a sentence, such as, "*She has strange power over me*". Hence, a sense implying an abstract description in which exists a "mental" or abstract type of interpersonal relation between trajector and landmark, seems to be derived from a sense implying a physical description in which exists a physical type of relation between trajector and landmark. This mental or abstract description implied by the CONTROL sense of *over* is said to be figurative or metaphorical.

At this point, a cognitive view of the corpus analysis leads to the introduction of one of the central principles of cognitive semantics, according to which conceptual structure derives from *embodiment*, in the sense that conceptual structure has a bodily and sensori-motor basis. The embodiment cognition theory was notably proposed by Georges Lakoff and Mark Turner in their book *Metaphors We Live By* (1980) in which they question the way in which complexity associated with our conceptual representation is formed and offered the explanation according to which there would exist a close correlation between the concepts human beings form and the nature of their physical bodies. In other words, conceptual structure would come from our embodiment. The notion of embodiment is crucial to this study, and correlation between literal meanings that imply a "concrete" participation of the physical body, and conceptual meanings which imply a more "abstract" one, will be tried to be identified, together with the nature of "abstractness" of conceptual meaning. According to the context in which the target word appears, the meaning of this latter can be interpreted differently, so that it proves to have "different meanings". These different meanings are divided into two main classes of meaning: the literal and conceptual (this latter being also called "figurative" or "metaphorical" meaning), which are often considered as mere distinction between physicality versus abstractness.

1.2.1.5 *The Conceptual Metaphor Theory (CMT)*

The embodiment cognition theory is especially associated with another theory developed in Cognitive linguistics: the cognitive semantic approach to the study of metaphor and metonymy, known as Conceptual Metaphor Theory (CMT), first proposed by Lakoff and Johnson in *Metaphors We Live By* (1980). Three crucial concepts have been identified in this theory (Lakoff & Johnson 1980; Lakoff & Nunez 2000):

1. innate cognitive capacities, such as grouping or pairing, which occurs when a set of entities are “manipulated” as a unitary entity on the basis of similarity, proximity, or other types of relationship. This is part of the principle of “conceptual reification” (Langacker 1999), which consists of grouping words on the basis of a particular type of relationship, such as similarity or proximity, and then forming a single unit of words.
2. image-schema, such as source-path-goal, container-content, center-periphery, or force. This notion was first introduced by Lakoff (1987) and Johnson (1987). They designate schematic structures that recur in a variety of human bodily experiences, such as spatial motion, perceptual interactions, and interactions with objects. They are internally structured, so that elements that are part of these structures are logically organized. Moreover, their high level of schematicity allows them to apply to various domains of experience, and thus to structure our bodily experience (Talmy 1972, 1977, 1983), and our non bodily experience as well, via metaphor (Lakoff 1987: 453; Johnson 1987: 29; Croft & Cruse 2004: chapter 8). Basically, two roles of image schemas can be retrieved from this definition: “They are concepts that have directly-understood structures of their own, and they are used metaphorically to structure other complex concepts” (Lakoff 1987a: 283).
3. conceptual metaphor, which consists of conceptual phenomena whereby a *target domain* is structured and understood with reference to another, more basic, “source domain” (Lakoff and Johnson 1980). In other words, it deals with “the juxtaposition of two conceptual structures which are related to each other by means of some form of similarity.” (Steen 2007: 66). This phenomenon, also referred to as cross-domain mapping, allows the innate cognitive capacity of pairing and image schema to be mapped onto a more abstract, or non-embodied, target domain.

- a. Image-schema are applied to conventional metaphors, that is, metaphors that are part of the everyday language of a particular community, and are thus culture-based, such as LOVE IS A JOURNEY, whereby the target concept of love is understood in terms of the image-schematic structure source-path-goal, in a sentence such as, “I don’t think this relationship is going anywhere” (Lakoff & Johnson, 1980). Such a sentence points out the concept of love with reference to the concept of a journey, and more exactly the aspect of purpose found in the love relationship with reference to the aspect of destination found in the concept of a journey. The concept of a journey is part of our bodily experience which implies movement of the body in space, and is structured in such a way that one basic element (the trajector) is identified according to another basic one (the landmark) in a source-path-goal schemata (see discussion about the detailed components and functioning of the source-path-goal schema in the third part of this dissertation).
- b. They are also applied to conceptual blends (Turner & Fauconnier 1994; Turner & Fauconnier 1995), that is, a more complex mapping which involves the projection of more than two conceptual domains—called *mental spaces* by Fauconnier (1985) and further referred to in Blending Theory (Turner & Fauconnier 1994; Turner & Fauconnier 1995). It could be described as a “metaphor from metaphor” phenomenon, in which two or more conceptual metaphors are employed to generate new expanded, or composite or “blended” metaphors by three basic processes: composition, completion and elaboration (Fauconnier & Turner 2002). These metaphors are still part the everyday language of a community, and are thus representative of how language is conceptualized in a specific culture.

1.2.1.6 *Literal versus Figurative meaning: from classical versus contemporary view*

Conceptual metaphors, in which one source domain is understood in terms of another, lead to the discussion of literal versus, or in relation to, figurative or metaphorical meaning. First, the traditional view of the notion of literality or literal meaning is not a unitary notion, and is based on five criteria from which five definitions are retrieved (for these definitions: Gibbs 1993, 1994; Lakoff 1986b: 292; Récanati 1993, 1995):

1. Conventionality, from which the *conventional literality* definition contrasts literal usage versus poetic usage, exaggeration, embellishment, excessive politeness, indirectness, and so on.
2. Frequency, from which the *subject matter literality* definition refers to literal expressions as “the usual ones used to talk about a particular topic”.
3. Directness, from which the *non-metaphorical literality* definition refers to directly meaningful language, and so, a word that has a literal meaning is a word (concept) that “is never understood in terms of a second word (concept)”.
4. Objectivity, from which the *truth conditional literality* definition refers to literal language as the language capable of “fitting the world” or of referring to “objectively existing objects” or being “objectively true or false”.
5. Context-independency, from which the *context-free literality* definition refers to the literal meaning of an expression as “its meaning apart from any communicative situation or its meaning in a null context”.

The first problem that is posed by these notions, is that the contrast between literal and figurative meanings based on these criteria and/or definitions proves to be unclear and the following set of assumptions based on the first four definitions prove to be false (Lakoff 1994: 43–44):

1. All everyday conventional language is literal, and none is metaphorical.
2. All subject matter can be comprehended literally, without metaphor.
3. Only literal language can be contingently true or false.
4. All definitions given in the lexicon of a language are literal, not metaphorical.
5. The concepts used in the grammar of a language are all literal; none are metaphorical.

According to these definitions, literal language would refer to language use as being “independent of any human understanding” (Lakoff & Turner 1989: 115) and as such, as being able to describe objective reality, which is to be distinguished from figurative or metaphorical meaning.

According to the first definition, that is, “conventional literality”, literal language use is identified as conventional, natural, or everyday language, while figurative or metaphorical language use is identified as poetic language, in which rhetoric devices are used to be employed to transform

reality by exaggerating or embellishing this latter, so that it conveys emotive meaning. This latter view of figurative or metaphorical language use corresponds to the traditional Aristotelian view of metaphor as being primarily a poetic and rhetorical device, and to the Hobbesian ‘literal-truth paradigm’ in which metaphor is considered non-scientific and therefore intellectually suspect. However, there is growing evidence in the metaphor literature, which proves that “conventional language and our conventional conceptual system are fundamentally and ineradicably metaphoric (Lakoff & Turner 1989: 116). For instance, everyday language proves to be figurative as well, in expressions such as “I demolished his argument” (Lakoff and Johnson 1980). This use of “demolished” does not consist of physically acting on the object “argument”, as this latter is not a physical object with which we can interact with our body. It is an abstract entity with which we interact metaphorically only. Proving or convincing that his argument is not valid is understood in terms of a physical collapse of something. This way of expressing oneself appears to be an ordinary way of talking about events that occur in the real world, so that it is difficult to distinguish literal or ordinary meaning from figurative or literary meaning according to the context in which they appear.

“Non-metaphorical literality” defines the notion of literality as “direct” meaning of an expression instead of “indirect” or metaphorical one. In this sense, direct meaning means that the meaning of an expression is not understood in terms of another meaning. Metaphorical meaning is said indirect, as it is mainly understood in terms of more concrete meaning, as in the example above, in which “demolished” is understood in terms of the physical act of demolishing a concrete or real object. The non-metaphorical literality definition implies thus that we use “true” or direct meaning when referring to literal meaning. However, it seems to be difficult to talk about some concepts without using metaphor, especially when referring to time, as in the following sentences (Lakoff & Johnson 1980):

(5) *Christmas is approaching.*

Time is here conceptualized in terms of real space in which an event that is approaching refers to an event that is imminent. It is an everyday or ordinary way to refer to time, and it is difficult to refer to time non-metaphorically. Can we just say that some concepts are only understood metaphorically and thus do not have a literal counterpart? Can literal meaning be found only when the notion it refers to correspond to something known in the real world or in our experience of the real world? If so, time could not be considered a “real” experience, but a more abstract concept. As a response to these questions, Steen (2007: 67) suggests that indirectness may be explained and justified if the

perspective to the source domain is shifted. Then, the primary meanings related to words such as “approach” are not to do with the passing of time, but motion in space.

Next, the “subject matter literality” and the “truth conditional literality” definitions highlight our experience of the real world. First, “subject matter literality” defines literal expressions as the *usual* ones used to talk about a particular topic. However, even if this definition emphasizes experience with the adjective “usual”, a concept like “time” cannot be said to be “literal”, because of being usually referred to in a certain way, as it is indeed “usually” talked about metaphorically. Second, “truth-conditional literality” defines literal expressions as referring to *existing objects* in an objective way, and can be judged as true or false. Here again, this definition points up our experience of the real world: the idea of the “real world” is seen with the use of “existing objects”, while the idea of experience is seen with the use of “true or false”, which indicates that we are able to evaluate things thanks to our experience. Existing objects also refers to actions or characteristics and do not always designate physical concrete objects that we can touch with the hands. When designating an action, this action will be “physical”, in the sense that it could be reproduced or mimed in the physical or real world, as referring to a real-world situation. Abstract concepts, like time, cannot be reproduced “literally”, but only metaphorically.

On the one hand, the conventionality, frequency, and context-independency criteria, as well as their corresponding definitions, apply to the first implicit claim of the Literal Meaning Theory denied by Lakoff & Turner (1989), that is, the claim that everyday language is conventional and referential (making reference to ordinary reality) and semantically autonomous and that ordinary language is not metaphoric. On the other hand, the objectivity criterion, as well as its corresponding definition, applies to the second claim of the Literal Meaning Theory denied by Lakoff & Turner (1989), that is, the Objectivist claim (Lakoff & Turner 1989: 117):

Conventional expressions in a language designate aspects of an objective, mind-free reality. Therefore a statement must objectively be either true or false, depending on whether the objective world accords with the statement.

Conventionality does not apply to literality only. Many of our conventional expressions or expressions used in natural or everyday language are metaphoric, so that they have been called “ground metaphors”, “basic metaphors” or “conventional metaphors” (Johnson 1981; Lakoff & Turner 1989). Thus, a specific expression of language use can be simultaneously conventional and metaphoric. Lakoff and Johnson suggest that “metaphor is pervasive in everyday life, not just in

language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature” (Lakoff & Johnson 1980: 3). According to Lakoff & Johnson, metaphors are so pervasive that “it is hard to think of a common subjective experience that is not conventionally conceptualized in terms of metaphor” (Lakoff & Johnson 1999: 45). The fact the traditional naming of “dead metaphors” is used to refer to metaphors that are conventional and that are therefore no longer metaphors, shows that the traditional view fails to recognize metaphor as an active phenomenon in everyday and ordinary language. Lakoff & Turner believe that “this mistake derives from a basic confusion: it assumes that those things in our cognition that are most alive and most active are those that are conscious. On the contrary, those that are most alive and most deeply entrenched, efficient, and powerful are those that are so automatic as to be unconscious and effortless” (Lakoff & Turner 1989: 129).

The second problem that is posed by the notions of literality versus metaphor is the fact of making a distinction between the two along the lines of word use. Indeed, by doing so, one would tend to reduce the definition of metaphor to a definition based on a specific linguistic expression of metaphor rather than conceptual understanding of metaphor (for the term conceptual here, see Lakoff & Johnson 1980; Lakoff & Turner 1990), which appears to be the theoretically superior position, in the sense that metaphor is a function of cognition (Johnson 1981: 34–43; Lakoff 1994: 202–251 in “The contemporary theory of metaphor”). This problem is shown with the traditional *manner* in which we *compare* metaphor and simile according to which a metaphor of the “A is B” form is another way of saying “A is like B”. This results in the assumption that the metaphor is a matter of linguistic expression and not of conceptual structure. Lakoff & Turner point out that “the attempt to define metaphors in terms of syntactic form misses entirely what metaphor is about: the understanding of one concept in terms of another” (Lakoff & Turner 1989: 133). Furthermore, as pointed out by Lakoff & Johnson (1999: 123):

Metaphor is centrally a matter of thought, not just words. Metaphorical language is a reflection of metaphorical thought. Metaphorical thought, in the form of cross-domain mapping is primary; metaphorical language is secondary.

As such, “metaphor is fundamentally conceptual rather than linguistic in nature. Metaphorical language, consisting of specific linguistic expressions is but a surface manifestation or realization of

conceptual metaphor” (Yü 1998: 34). Thus, conceptual metaphors, or metaphorical concepts, are to be distinguished from linguistic metaphors, or metaphorical expressions (Lakoff & Johnson 1980).

These problems lead Lakoff & Turner to question the usefulness of the term “literal” to the analysis of real natural language (Lakoff & Turner 1989: 119). However, Kittay believes that not to talk about literalness entails not to talk about metaphor as well, because: “If we deny the literal in language, we deny the possibility of metaphor as well” (Kittay 1987: 20). Macky then proposed that “the major distinction that we offer is that literal usage is (communicable) independent usage and figurative usage is dependent usage” (Macky 1990: 42). According to this definition, the understanding of the figurative language use is dependent upon a prior understanding of the literal language use.

The questions above about how time is represented, for instance, make us understand that the use of one meaning instead of another to refer to a notion is not a matter of choice. Our experience of the real world, the types of relationships between speaker and hearer, and/or the speaker’s state of mind when speaking, make us refer to a notion in a particular way. In other terms, our interaction with the real world contributes to the way we express ourselves. Instead of distinguishing two types of meanings, we could say that literal and conceptual meanings refer to two different aspects of meaning.

1.3 Methodology of the analysis

A set of morphological “bodily” notions taken from BNC and also Brown corpus will be analysed one after the other, according to the greater number of instances in the corpus. Furthermore, nouns referring to body parts will be analyzed first, while the verbs referring to events in which the body is involved, will follow.

1.3.1 Literal and conceptual senses

For a given notion, two different meanings will be distinguished:

- 1) “literal meaning”, which is identified as the prototypical meaning (see explanations in the previous part).
- 2) “conceptual or figurative meaning”, in which the notion has an extended meaning that is derived from the literal one by analogy, association, similarity, or contiguity, for instance. Thus, some of its semantic features are common with literal ones, but other semantic features that are obligatory in understanding the conceptual notion are different from literal one. This sense will often call up a mental picture of the primary sense, even if it cannot be interpreted literally. Furthermore, it will refer to notions that will appear in more restricted contexts or communicative situations in general.

The fact there are two different types of meaning to refer to a single notion does not mean that these two meanings are incompatible. For instance, the appearance of one type of meaning in a context will not directly exclude the appearance of the other in a similar context.

1.3.2 Classifying meanings inside meanings

Once instances found in the corpus have been classified, as referring to literal or conceptual meanings, a more precise classification will be done, according to the types of literal, and especially conceptual meanings the instances refer to. Thus, sub-categories of meanings will be created inside the main two aspects of meaning, that is, inside the literal and the conceptual meanings (see appendixes).

1.3.3 Conceptual sense: metonymy and metaphor

At this point of our study, after having identified the prototypical sense of a term, and the distinct senses derived from this former, we will analyze these distinct senses and explain how they are related to the prototypical sense. We will distinguish two types of conceptual senses: the metonymic and the metaphorical ones. Metonymies and metaphors have long been discussed in cognitive linguistics over the past thirty years. We are first going to define the terms of metonymy and metaphor by introducing important terms such as mapping/projection, source and target domains, knowledge frame/Idealized Cognitive Model/functional domain, pragmatic function, mental activation, and active zone.

In *Women, Fire, and Dangerous Things*, Lakoff (1987) defines metonymy as a conceptual relation where one concept stands for another concept, in the context of an encompassing knowledge frame, called an Idealized Cognitive Model, or ICM. This conceptual relation is a “blending” (Turner and Fauconnier 1995) between two domains of world experience, that is, a mapping of a source domain, which is the “conceptual area” from which the metonymy is drawn (Knowles & Moon 2006), onto a target domain, which is the conceptual area to which the metonymy is applied, or a projection from the source domain to the target domain. The *knowledge frame*, based on Fillmore’s term of *frame* (1985), or ICM (Lakoff 1987) is also called *functional domain* by Barcelona (2002: 246) who proposes his own definition based on necessary and sufficient conditions for metonymicity:

A metonymy is a mapping of a cognitive domain, the source, onto another domain, the target. Source and target are in the same functional domain and are linked by a pragmatic function, so that the target is mentally activated.

What is called “pragmatic function” (Fauconnier 1997) is a “privileged connection between two roles in a functional domain (e.g. CAUSE-EFFECT, AUTHOR-WORK, etc.)” (Barcelona 2002) as in the following sentence:

(6) *Proust is tough to read.*

In this example, the author “Proust” stands for his literary work, so that the source AUTHOR and the target PROUST’S LITERARY WORK are linked by the pragmatic function AUTHOR-WORK.

The metonymy enables the target to be “mentally activated” (Barcelona 2002), so that one aspect or entity of the target is an “active zone” (Langacker 1993), as being highlighted or in focus when explicitly appearing in the sentence.

A particular form will thus take place thanks to the metonymic mapping: ‘source domain’ STANDS FOR ‘target domain’. This particular form indicates the type of conceptual relations between the two domains, that is, relations of “contiguity” (Jacobson 1971), in the sense that inferences from both domains are associated together, as being co-occurrent (Panther and Thornburg 2007; Panther 2006) or as referring to the same occurrence, even if two different aspects of the same occurrence.

As the metonymy phenomenon, the metaphor one implies that two terms that are part of different worlds of experience melt, or “blend” (Turner and Fauconnier 1995), so that elements of one world (inferences) are assimilated to elements of the other world. Here again, “blending” of two domains of experiences implies a conceptual relation between these two domains, that is, a “unidirectional” mapping of a target domain onto a source domain, or a projection from a source domain onto a target domain, so that a particular form takes shape: ‘target domain’ IS ‘source domain’, or ‘target domain’ AS ‘source domain’ as in the following sentence taken from “Metaphors We Live By (Lakoff and Johnson 1987):

(7) *Your claims are indefensible.*

In this example, the target domain of ARGUMENT with “claims” is mapped onto the source domain of “WAR” with “indefensible”, so that the particular form ARGUMENT IS WAR takes shape.

This particular form indicates the type of conceptual relations between the two domains, that is, relations of “similarity” (Jacobson 1971), in the sense that inferences from both domains are associated together, as having both analogous or resembling features (association defined as analogy and resemblance in Panther and Thornburg 2007; Panther 2006) when metaphorical mapping takes place.

We have defined both metaphor and metonymy according to the cognitive theory of metaphor and metonymy, and we are now going to introduce some common traits found in both metaphor and

metonymy in cognitive linguistics (based on Lakoff and Johnson 1980; 1989, mentioned in Barcelona 2003):

- they are both considered “conventional mental mechanisms”, not always expressed verbally, but can be expressed through gestures or can motivate our actions (see Lakoff and Johnson 1980: 156-158)
- metaphorical and metonymic “conceptual projections” need to be distinguished from metaphorical and metonymic “expressions”, conceptual projections being able to be activated by syntactic elements such as a word or a phrase, or by meta-linguistic elements such as gestures and other types of behavior and reasoning processes (Lakoff and Turner 1989: 49-67).
- conventional metonymies and metaphors are usually “automatic, unconscious” mappings, “pervasive” in everyday language. Literary or poetic metaphors and metonymies are considered “creative extensions elaborations of these conventional mappings” (Lakoff and Turner 1989: 67-72)
- metaphors and metonymies are characterized by “systematicity”, in the sense that hierarchical networks of conceptual metaphors and metonymies can be found, in which context-specified metaphors and metonymies can be derived from more abstract super-ordinate ones (for instance the specified metonymy FACE FOR A PERSON also corresponds to the abstract super-ordinate PART FOR WHOLE metonymy (Barcelona 2003)
- Both metaphors and metonymies are fundamental types of cognitive models (Lakoff 1987: 68-90), both are experientially motivated (Lakoff and Johnson 1980: 61-68), and both can be used for a pragmatic purpose (Ruiz de Mendoza 1997: 171-176, in Barcelona 2003).

Common and different characteristics of both metonymies and metaphors according to basic theories of cognitive linguistics can be summarized as follows:

Metonymy	Metaphor
mapping of a target domain onto a source domain	
source and target are part of the same functional domain or ICM	source and target are part of separate domains
conceptual relations between the two domains are relations of “contiguity” (association of two different roles that are part of the same domain)	conceptual relations between the two domains are relations of “similarity” (association of analogous or resembling elements that are part of different domains)
semantic element in focus (active zone) emerge from blending	“new” semantic element(s) emerge(s) from blending
‘source domain’ (STANDS) FOR ‘target domain’ form created	‘target domain’ IS / AS ‘source domain’ form created
“conventional mental mechanisms”	
conceptual projections activated by both syntactic (grammatical) and meta-linguistic (gestures, behaviors, reasoning processes...) elements	
“automatic, unconscious” mappings, “pervasive” in everyday language	
characterized by “systematicity”	
“fundamental types of cognitive models”, “experientially motivated”, and can be used for “pragmatic purpose”	

Although there are differences between metonymies and metaphors, as seen above, it is not always easy to distinguish them, and some linguists still discuss the validity of either phenomenon for cases in which different semantic understanding of the occurrence can lead to interpret it metonymically or metaphorically. For instance, Barcelona (2003: 9) gives the following example:

(8) *Pete is down in the dumps.*

This example reflects the SADNESS IS DOWN conceptual metaphor according to most cognitive linguistics. However a metonymic interpretation will also be valid, according to Barcelona, as there is no clear principle in the metaphor cognitive definition that enables to objectively identify the “encyclopedic” or experiential domain (Langacker 1987: 154-158; Taylor 1995: 83-87), that is, the domain that “includes all the entrenched knowledge that a speaker has about an area of experience” (Barcelona 2003: 9). Indeed, the basic idea would be that an encyclopedic or experiential domain is different from person to person, as each person’s experience of the world is different, and knowledge of the world will even vary in breadth, as each person will more or less know about an

area of experience depending on his degree of interaction with this area of experience. According to this, Barcelona proposes a metonymic interpretation of this instance, saying that drooping bodily posture is an effect of sadness, so that verticality and three-dimensional space are part of the same conceptual domain of sadness. If so, the source “down” which indicates drooping/vertical bodily posture is associated to the target “sadness” by contiguity, as the source is assimilated as an aspect (here the effects) of the target both source and target domains being thus part of the same experiential domain of “sadness”. If the blending of the source and target domains puts light on the association of two different aspects/roles of the same conceptual domains, the instance can then have a metonymic interpretation, as it is the case here if drooping/vertical bodily posture is considered as an aspect of sadness. However, as pointed out by Barcelona, most English speakers would not consider drooping/vertical bodily posture an effect of sadness “conventionally” speaking, although verticality is associated to sadness “unconsciously” via metonymy or metaphor (Barcelona 2003). He thus proposes a modification of the metaphor definition, so that the metaphoric interpretation of the instance above is valid (Barcelona 2003: 9):

...Metaphor is a mapping of a domain onto another domain, both being conventionally and consciously classified as separate domains, i.e., not included in the same superordinate domain...

In this definition, he insists on the fact that mapping between two “separate” domains in metaphor be a mapping between two domains that are considered separate at the conventional and conscious levels.

Verena Haser (2005) does not go along with Barcelona’s definition of metaphor as mapping involving domains that are “conventionally and consciously classified as separate domains”, since, for her, encyclopedic or experiential domains are not built from conventions, but rather from our everyday experience.

As we have seen above, it seems that experience of the world influences our way of thinking and conceptualizing things. Metonymic or metaphoric interpretation would then also be valid for the following example:

(9) *I see what you mean.*

This occurrence of “see” reflects the UNDERSTANDING AS SEEING conceptual metaphor in cognitive linguistics, in which the target domain of “understanding” is viewed as the source domain of “seeing”. However the occurrence can also be interpreted metonymically if “seeing” is

considered an aspect of “understanding” (the literal act of seeing can be considered the first stage that leads to the “understanding” process). However, most English speakers will not consider “seeing” and “understanding” as being part of the same functional domain, but rather will associate metaphorically the two notions whose (certain) semantic features are alike.

Croft and Cruse (2004) have also identified cases of indeterminacy between metaphor and metonymy, in which both metaphoric and metonymic interpretation are valid according to different speakers and their different ways of conceptualizing things. They first give the example of the presence of human body-part terms in phrases such as “the head of the bed” or “the back of the chair”, and try to understand the motivation for such a mapping. On the one hand, “head” and “back” could be used metonymically, as they designate the parts of the bed and the chair, in which a person’s head and back usually rest. On the other hand, “head” and “back” could be used metaphorically because of “some resemblance between a bed and a supine person, or between a chair and a standing or sitting person” (Croft and Cruse 2004: 219). However, we will tend to consider this type of example as a case of metaphor because of the syntactic structure “X of X” (see remark about the interpretation of “the arm of the chair” compared to “the arm chair” in our corpus-based analysis of *arm*).

They give another example of indeterminacy, but this time between three senses: literal, metonymical and metaphorical. In this case, indeterminacy between literal and conceptual senses depends on the context, so that the immediate context can help determine which literal or conceptual sense it deals with. However, indeterminacy between metonymical or metaphorical sense depends on how we conceptualize things and can vary from one speaker to the other. Here is this example (Croft and Cruse 2004: 219):

(10) *The car stopped in front of the bakery.*

According to Croft and Cruse, a first literal interpretation of this example is possible, even if less obvious, if the car stopped by itself in front of the bakery after being left with the brakes off and then rolling down an incline. However, a metonymic interpretation would be preferred, in which the car stands for and indirectly refers to the agent of the driving event, that is, the driver himself. Another metaphorical interpretation would be also possible, in which the car is personified in a way and becomes an animate agent responsible of the action of driving. According to the type of action verb however, both metonymical and metaphorical interpretations seem to coexist (see Croft and Cruse’s example in the “*Conceptual ‘metaphonymy’*” part below).

1.3.4 Different kinds of metonymy in the literature

This part aims at summarizing the different kinds of metonymies that have been proposed in literature over the past twenty years.

1.3.4.1 Ruiz de Mendoza's (1997); Ruiz de Mendoza and Velasco's (2001)'s theory on metonymy

Ruiz de Mendoza Ibáñez and Velasco (2001) define metonymy as a domain-subdomain mapping, in which the main domain is called the “matrix domain”. As far as mapping is concerned, Ruiz de Mendoza (1997b) distinguishes two types of mappings:

- one-correspondence mapping, in which only one “correlation” is found between source and target, as in the metonymic example “Bush attacked Iraq”—Bush represents the U.S. army only—or the metaphoric one “There’s the pig waiting”—“the pig” represents a particular person only.
- many-correspondence mapping, in which a set of correlations is found between source and target, as in the LOVE IS A JOURNEY conceptual metaphor, in which all the typical elements or participants of the concept “love” are mapped onto the typical elements or participants of the concept “journey”, so that, lovers are mapped onto travellers (both are typical human participants), lovers’ common goals are mapped onto travellers’ common destinations, and so on.

According to these mapping distinctions, Ruiz de Mendoza and Velasco defines metonymy as always being a one-correspondence mapping only.

According to the nature of the source and target domains, that is, subdomain or matrix domain, two types of metonymies have been distinguished (Ruiz de Mendoza & Velasco 2001):

- the “source-in-target” metonymy, in which the source is a subdomain of the target, as in “The sax won’t come today”—the sax stands for the sax player and is thus considered a subdomain of the target “sax player”. Basically, this type of metonymy corresponds to the PART FOR WHOLE conceptual metonymy, in which the source is represented by a part of the target and stands for the whole target.
- the “target-in-source” metonymy, in which the target is a subdomain of the source, as in “He always enjoys Shakespeare”—“Shakespeare stands for “his literary work” (Ruiz de

Mendoza 1997b, 2000) and is thus considered the domain or matrix domain of the target “his literary work”. Basically, this type of metonymy corresponds to the WHOLE FOR PART conceptual metonymy, in which the source is represented by the whole target and stands for a part of it.

Two types of metonymic uses will be also distinguished (Ruiz de Mendoza & Velasco 2001):

- referential use, in which a single concept stands for another, as in “She’s been dating a farm hand”—“hand” stands for “worker”
- predicative use, in which a statement stands for a different statement, as in “I’ll be brief”—the stative predicate “be brief” stands for the action predicate “speak briefly”.

When analyzing the distinctions between both types of mappings, metonymic nature, and metonymic use, we can say that these are distinctions based respectively on semantics, and grammar and syntax.

Both types of mappings are based on semantic distinction, according to the number of common semantic features mapped. On the one hand, one-correspondence mapping implies that only one correlation is found between the source and target. On the other hand, many-correspondence mapping implies that a set of correlations or relationships are found between the source and target, that is, that a few common semantic features are extracted from both the source and target and highlighted.

Both types of metonymic nature are also based on semantic distinction, that is, distinction between source and target according to their semantic relationships (see PART-WHOLE or WHOLE-PART relationships).

Both types of metonymic uses are based on both grammatical and syntactic distinctions, according to their grammatical and syntactic uses.

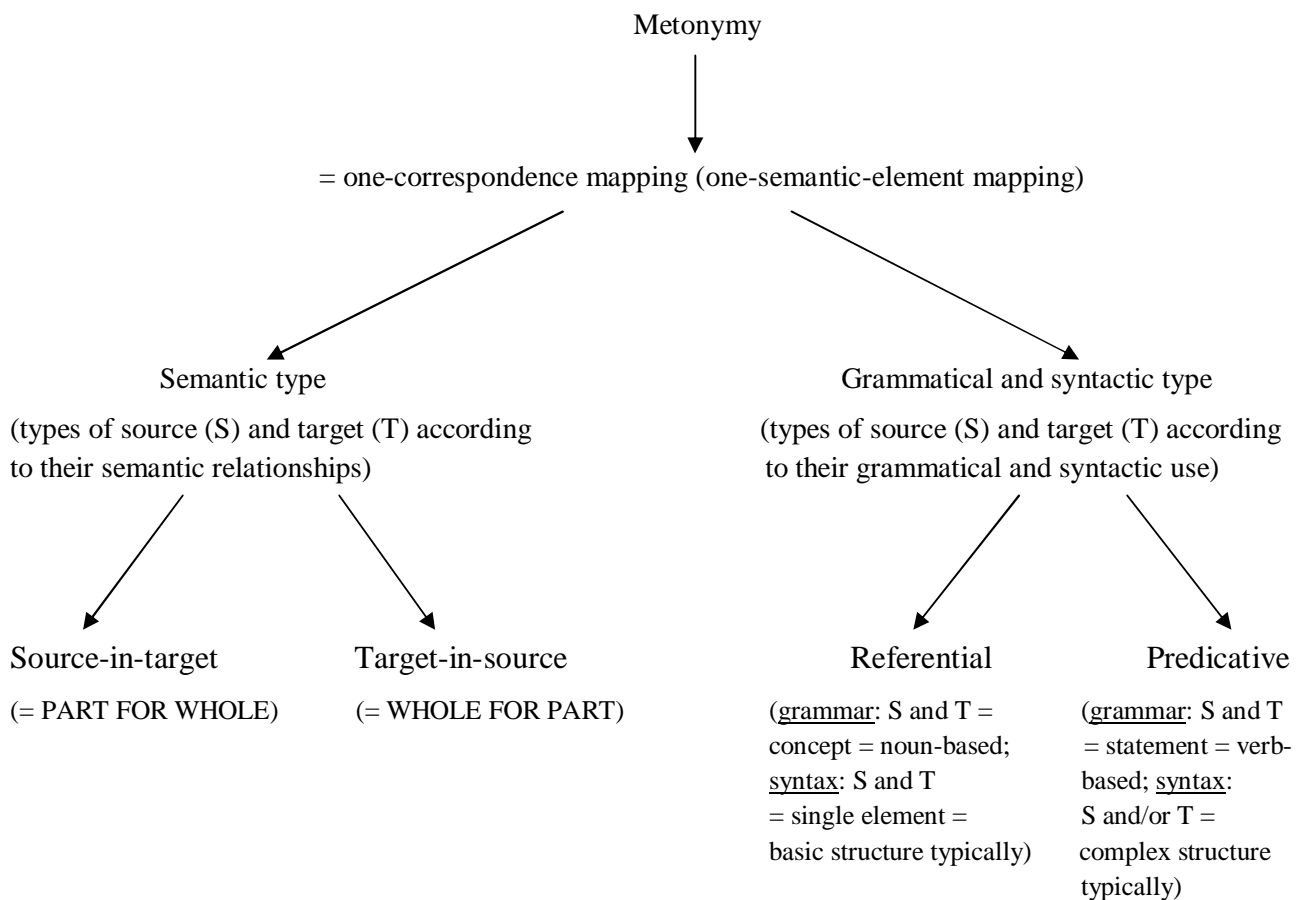
We can first say that referential and predicative elements are the two constituents of a clause or sentence. Both types of elements are defined as below by Butler (2003: 281):

...a clause will normally contain both referring elements, about which something is predicated, and predicating elements which are non-referential but are used to predicate a property in relation to some other entity.

According to this definition, we can say that both types of metonymic uses are first based on grammatical distinctions, according to the nominal or verbal status of source and target. On the one hand, referential elements are usually represented by noun phrases, since nouns typically refer. On the other hand, predicative elements are usually represented by verb phrases, since verbs typically predicate. We will consider predicative elements “informative” elements that are used to give information about referential elements.

We also consider that both types of metonymic uses are then based on syntactic distinctions, according to the number of syntactic elements involved in mappings. On the one hand, typical referential use of metonymy is based on what we have called “basic syntactic structure”, so that only one syntactic element is mapped onto another. On the other hand, typical predicative use of metonymy is based on what we have called “complex syntactic structure”, so that more than one syntactic element are involved in mapping.

Below is a table that summarizes all these types:



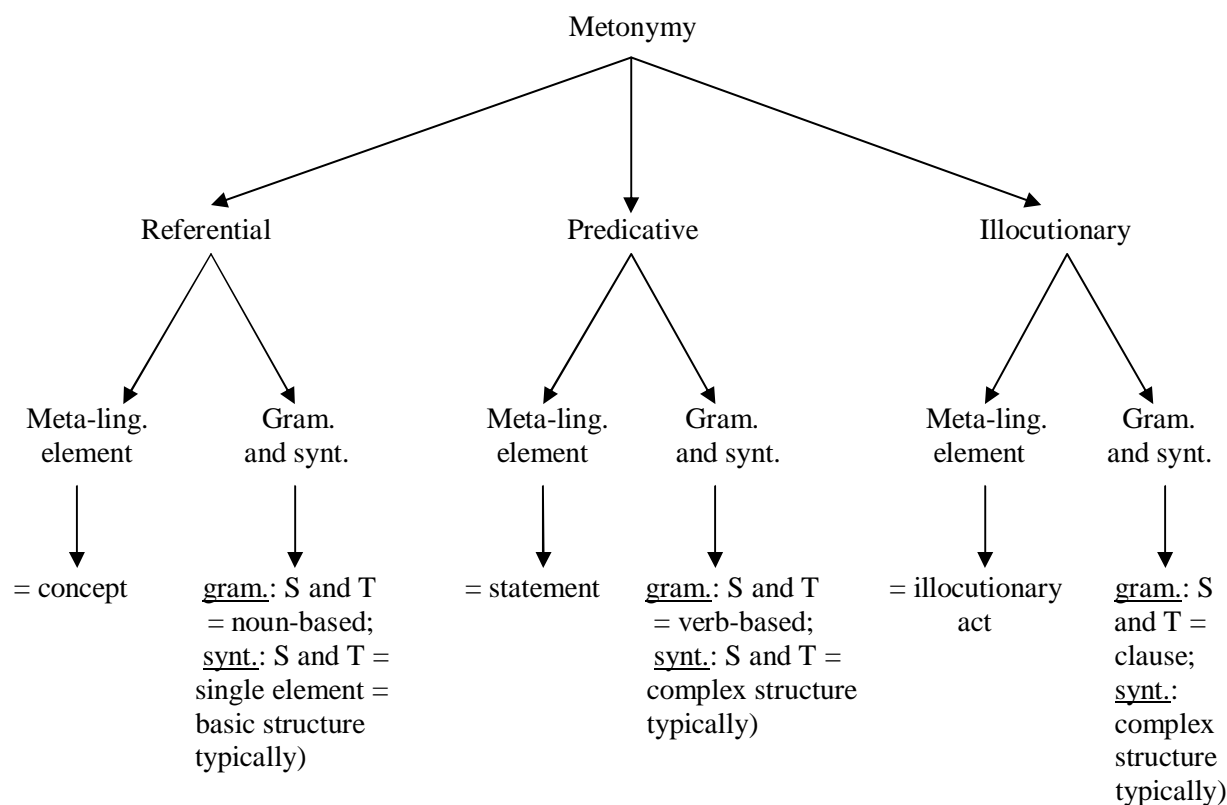
Metonymies are typically referential rather than predicative (Ruiz de Mendoza & Velasco 2001; Barcelona 2003) due to the domain-subdomain type of mapping that is involved. This type of mapping implies that the matrix domain, or domain, is the source or the target of the metonymic mapping itself, so that it is difficult “to map structural relation between source and target onto the target” (Barcelona 2003: 114). We will tend to think that one semantic element is typically represented by only one syntactic element, so that the semantic feature in common between the source and target is typically represented by the single concept itself and the relationships between the source and target therefore tend to be explicit or directly identifiable without the use of other contextual elements.

1.3.4.2 Panther and Thornburg's (1999) types of metonymies

Finding a general classification of metonymies is interesting, since it aims at understanding the real nature of metonymy, which is hardly possible when identifying a list of all types of metonymies, like the MEANS FOR AGENT type, the ACTION FOR RESULT type and so on. Panther and Thornburg (1999) proposes a meaningful classification of metonymy based on its “scope of action”. They distinguish three types of metonymies:

- referential metonymies, in which a single concept stands for another, as in “She’s been dating a farm hand”—“hand” stands for “worker” (see referential use above)
- predicative metonymies, in which a statement stands for a different statement, as in “I’ll be brief”—the stative predicate “be brief” stands for the action predicate “speak briefly” (see predicative use above); or “She was able to finish her dissertation”—the potential event “be able to finish” stands for the actual event “finish”.
- illocutionary metonymies, in which an illocutionary act stands for another, as in “I don’t know where the bus stop is”—the assertion about what the speaker does not know stands for the question “Where is the bus stop?”.

Panther and Thornburg’s classification is significant, since they do not restrict metonymy to its referring function, but analyze how it is used in everyday language. After analyzing this classification, the distinction between the three types of metonymy seems to be based on meta-linguistic nature, and grammar and syntax, as seen in the table below:



Ruiz de Mendoza and Velasco (2001) claims that the typology Panther and Thornburg propose neglects some important elements:

- the possible effects of metonymy on grammar: by distinguishing referential, predicative and illocutionary metonymies, the reasons why metonymy can have grammatical consequences on the phrase are not explained.
- another possible type of metonymy based on meta-linguistic situation or context: metonymy can be created from an experience we are living, and which is thus part of a meta-linguistic situation.

Furthermore, they agree on Kövecses and Radden (1998, 1999)'s discussion about the existence of “metonymy-producing relationships” and the need to describe metonymy according to different levels of abstraction. Thus, they propose another typology (Ruiz de Mendoza and Velasco 2001):

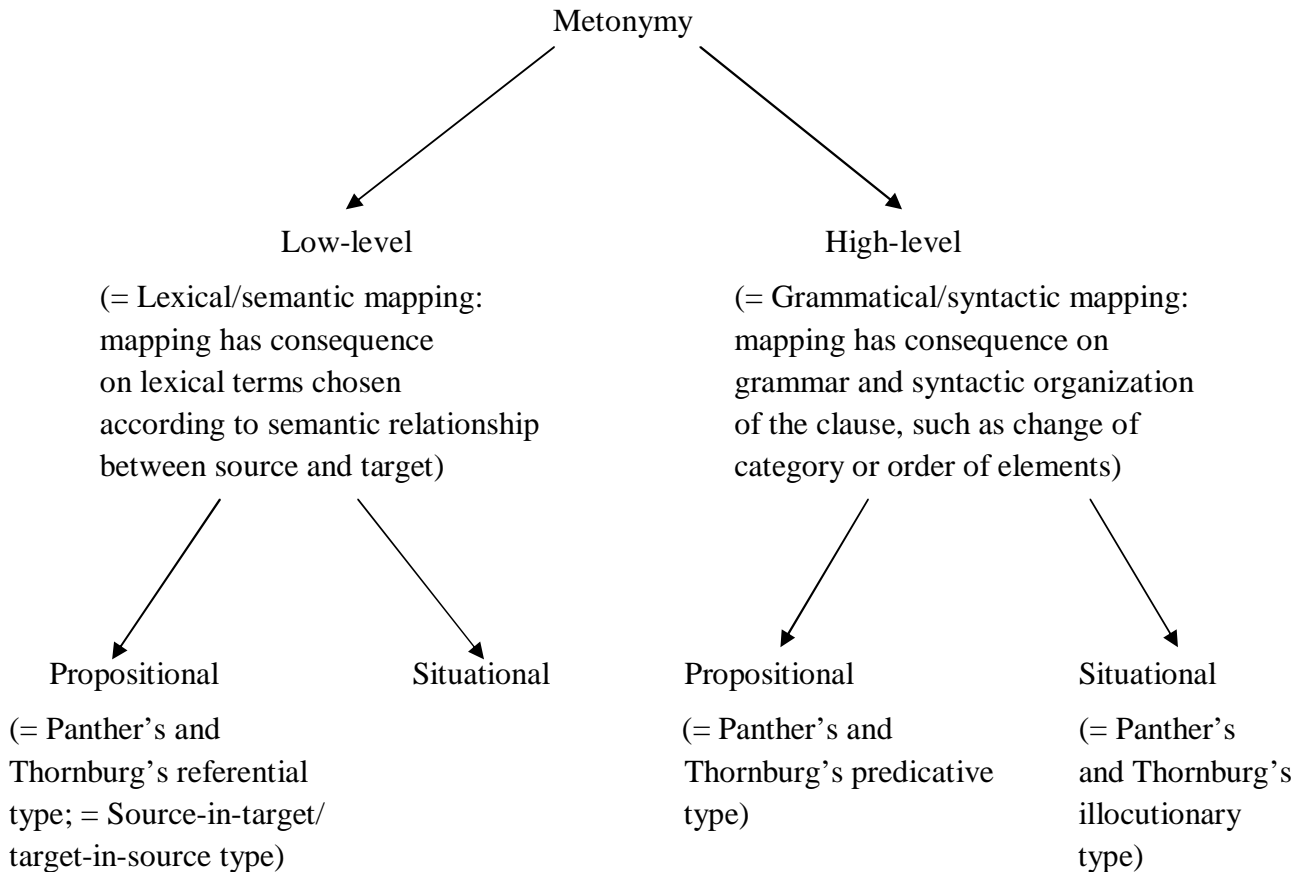
- low-level metonymies they define as metonymies which “make use of non-generic idealized cognitive models in their activation.” Non-generic type of idealized cognitive

models are based on conventional (or experiential) representations of concepts. Low-level metonymies are also subdivided into two categories:

- propositional low-level metonymies, in which a concept stands for another, as in “Tired faces all of them, some old, some young”—“faces” stands for “persons”. This FACE FOR PERSON or more generically PART FOR WHOLE conceptual metonymy can be explained by the fact that the concept of tiredness can be best represented by some particular physical characteristics on a person’s face.
 - situational low-level metonymies, in which an element of a specific situation stands for the whole situation itself, as in “The poor dog left with its tail between its leg”—the partial scene of the dog leaving with its tail between its leg stands for the whole situation of the dog being punished and therefore leaving with its tail between its leg.
- high-level metonymies they define as “mappings which make direct use of generic ICMs”. Generic type of ICMs are based on abstraction of some non-generic ICMs. Abstraction or generality in this sense can imply that ICMs touch on grammatical rather than lexical phenomena. High-level metonymies are also subdivided into two categories:
- propositional high-level metonymies, which deals with “grammatical metonymies¹⁰”, that is, metonymies which have “consequences in terms of linguistic structure” (Ruiz de Mendoza, Velasco 2001) in most cases, as in “He hammered the nail into the wall”—the instrument “hammer” stands for the action represented by the verb “to hammer”. In this case, the metonymy entails the creation of the verb category “to hammer” or the shift of category from the noun “hammer” which represents the instrument to the verb “to hammer” which represents the action. As a consequence of this, the metonymy also entails a reorganization of the clause.
 - situational high-level metonymies, in which a part of a speech act scenario stands for the whole of it. This is part of Panther’s and Thornburg’s (1998) discussion about speech acts organization as three-component scenarios, which they call “before”, “corer/result”, and “after”. Thus, according to this, each of these scenarios can stand for the whole scenario. An example of this metonymic type is Panther’s and Thornburg’s illocutionary metonymies.

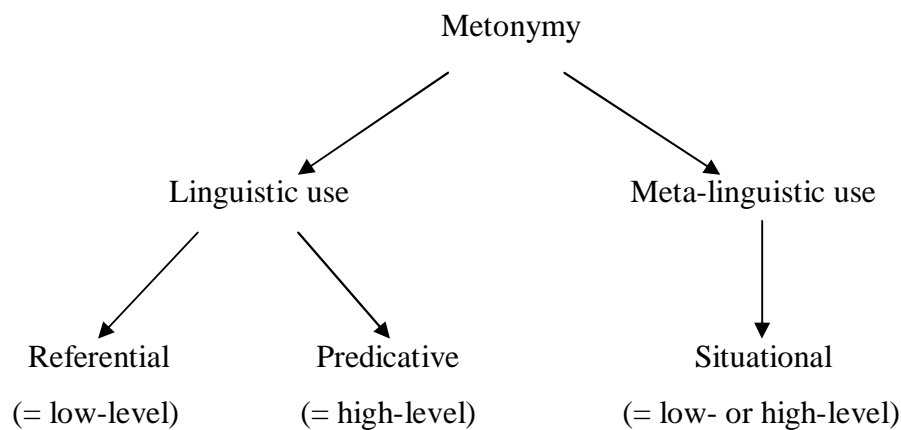
¹⁰ This term is part of a more general discussion which deals with “grammatical metaphors” (Halliday, 1985). See the third part for more details.

After analyzing Ruiz de Mendoza's and Velasco's classification, the distinction between the two types and subtypes of metonymy seems to be based on lexical/semantic and grammatical/syntactic type of mappings, as summarized in the schema below:



This schema identifies correspondences between both typologies. Indeed, Ruiz de Mendoza's and Velasco's distinction between low-level and high-level metonymies first distinguishes metonymies at both lexical and grammatical levels, while the distinction between propositional and situational metonymies distinguishes them according to their linguistic (propositional) or meta-linguistic (situational) use. Furthermore, this schema makes clear what Ruiz de Mendoza and Velasco (2001) criticize about Panther's and Thornburg's typology: first the possible type of metonymy based on meta-linguistic situation or context that has been neglected by Panther's and Thornburg's typology is the low-level situational type; furthermore, by distinguishing referential, predicative and illocutionary metonymies, Panther and Thornburg do not make clear which lexical or grammatical level metonymy operates at. However, we can say that the Panther's and Thornburg's distinction

between referential and predicative metonymies, which are the two main types, allows one to analyze metonymy more easily in linguistic structures, since both refer to a linguistic use of metonymy. According to this, we will propose the classification below based on linguistic and meta-linguistic uses of metonymy:



We will refer to this classification when analyzing metonymy from the corpus, since most occurrences are taken from written contexts (written BNC) and thus analysis is based on linguistic structures.

1.3.4.3 Different kinds of metonymies identified in the corpus analysis

In this part, the metonymies that are identified in our corpus-based analyses of body-part terms are presented and classified in our semantic scale above, so that their more “physical” or “abstract” status can be highlighted.

In our corpus analysis of body-part terms, the following metonymies have been identified:

1. Referential metonymies

- PART FOR WHOLE: relationships between two concepts. The body-part term is a part of a whole concept.
- ... FOR A PERSON: the body-part represents the person it belongs to. Metonymy of this type can be subdivided as follows:
 - o BODY-PART FOR A PERSON/PART FOR WHOLE
 - o BODY-PART FOR PERSONS/PART FOR WHOLE
 - o MEANS FOR AGENT: this metonymy can also have consequences on grammar or more exactly on linguistic structures. For instance, valency reduction entails the disappearance of the real subject of the sentence.
- ... FOR AN OBJECT: the body-part term represents an object that is linked to this body-part
- ... FOR POWER: the body-part term, especially the hand(s), represents, and is a symbol of power, since this latter is achieved by a kind of “supernatural” use of the hand, which is usually found in biblical texts.

2. Predicative metonymies

- ...AS A FOCUSED STAGE OF AN ACT: with this type of metonymy, the body-part term represents one stage or step of an action (such as the cause, result, means or instrument used to accomplish the action). The metonymy enables one to focus on this stage. Metonymies of this type can be subdivided, as follows:
 - o MANNER FOR ACTION: this can generate cases of grammatical metonymies. For instance, valency reduction entails the disappearance of the real subject of the clause and the reorganization of this latter, as in “every fabric handles well”.
 - o MANNER FOR RESULT
 - o MEANS FOR ACTION: in some cases, this metonymy can be identified as an example of “grammatical metonymy”, since this latter can have consequences on

grammar and linguistic structures: for instance, the creation of the verb “hand” shows that a shift of category takes place from noun to verb, which also entails a reorganization of the clause (see also Ruiz de Mendoza & Perez’s “high-level propositional metonymies” 2001).

- MEANS FOR RESULT
- ACTION FOR RESULT
- ACTION FOR RESULTANT STATE
- CAUSING FORCE FOR RESULTANT ACTION
- RESULTANT STATE FOR ACTION
- ACTION FOR RESULT
- ACTION FOR PROCESS: this is a case of grammatical metonymy in the corpus analysis: as in some cases of MEANS FOR AGENT metonymies, valency reduction can entail the disappearance of the real subject of the sentence.
- GESTURE FOR ACTION: the gesture that is part of the source domain can also be used meta-linguistically and therefore be situational according to the context.
- GESTURE FOR ACTION/PART FOR WHOLE: PART FOR WHOLE relationships are relationships between two statements. Here again, the gesture that is part of the source domain can also be used meta-linguistically and therefore be situational according to the context.

3. Predicative noun-based metonymies

- ...AS A CHARACTERISTIC OF AN OBJECT: with this type of metonymy, the body-part term appears in compounds as a noun, but in an adjectival position. It brings information on one particular relevant feature of the object, so that this feature becomes a characteristic of the object that distinguishes it from other types of objects of the same category. Metonymies of this type can be subdivided, as follows:
 - BODY-PART FOR LOCATION OF AN OBJECT
 - BODY-PART FOR GOAL OF AN OBJECT
 - BODY-PART FOR MANNER OF AN ACTION (IN WHICH THE OBJECT IS USED)
 - MANNER FOR OBJECT

This type of metonymy touches on compounds. The source is usually represented by a noun (body-part), while the target is represented by a predicative element (verb complement). These can be considered predicative uses of noun-based metonymies and can be explained by adjectival “parameterization” of the source domain (the noun that refers to the body-part is in an adjectival position so that it could be considered an adjective that modifies the noun that follows).

This can also explain why these can be sometimes regarded as cases of indeterminacy between metonymy and metaphor (see Croft & Cruse 2004: 219-222). This parameterization of the source domain aims at singling out a feature (for instance the “location” or the “goal” of the noun it modifies) that will be mapped onto the target object, as in cases of one-correspondence metaphoric mapping. However, source and target share domain-subdomain relationships, as in cases of metonymic mappings, so that these examples can be considered as “borderline cases of metonymy” (Panther & Thornburg 2003).

1.3.5 Different kinds of metaphors in the literature

As with metonymy, above, this part aims at summarizing relevant discussions about classifications of metaphors that have been proposed in literature over the past twenty years.

1.3.5.1 Ruiz de Mendoza’s (1997); Ruiz de Mendoza and Velasco’s (2001)’s theory

As already discussed in the part above, as far as mapping is concerned, Ruiz de Mendoza (1997b) distinguishes two types of mappings:

- one-correspondence mapping, in which only one *correlation* is found between source and target, that is, one common feature is singled out and highlighted. An example of metaphorical one-correspondence mapping would be the “PEOPLE ARE ANIMALS” metaphor, as in “Mary has an eagle eye”—one correlation is found between the source “eagle” and the target “Mary”, and this correlation is the common characteristic of “being good at noticing small details”.

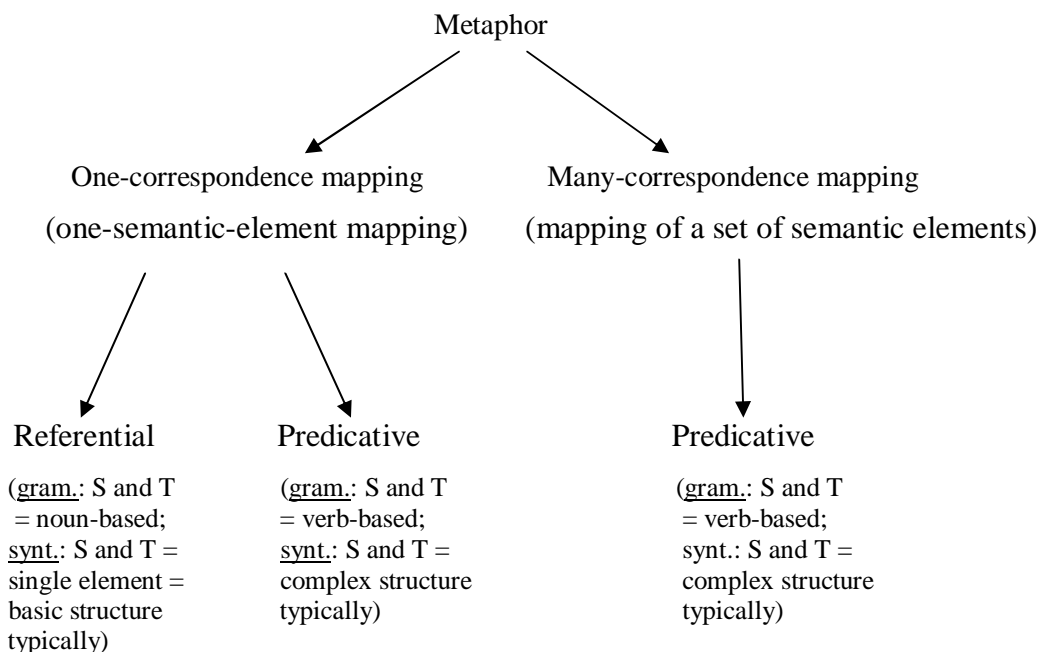
- many-correspondence mapping, in which a set of correlations is found between source and target, as in the “LOVE IS A JOURNEY” conceptual metaphor (see “many-correspondence mapping” in the part above, entitled “*Different kinds of metonymy*”).

The same types of uses or functions will be also distinguished for metaphor (Ruiz de Mendoza & Velasco 2001):

- referential use, as in “The pig is waiting for his check” (mentioned in Barcelona 2003: 114)—“pig” can be used by a waitress to refer to an unpleasant customer. In this case, “the pig” both refers to and stands for the customer.
- predicative use, as in “John is a pig”—John is construed as “being a pig”, because one of John’s traits of behaviour is understood in terms of the corresponding trait of behaviour a particular animal (here, the “pig”) has.

When analyzing the distinctions between both types of mappings and metaphoric uses, we can say that these are distinctions based respectively on semantics, and grammar and syntax (see part above entitled “*Different kinds of metonymy*”).

Below is a summary of the different kinds of metaphorical mappings and uses:



Contrary to metonymy, metaphors are typically predicative rather than referential (Ruiz de Mendoza & Velasco 2001; Barcelona 2003). Indeed, understanding a domain in terms of another

allows the stative verb “be” that appears in the predicative form “target IS source” form, to be used easily.

As hypothesized in the metonymy part above, “we will tend to think that one semantic element is typically represented by only one syntactic element, so that the semantic feature in common between the source and target is typically represented by the single concept itself and the relationships between the source and target therefore tend to be explicit or directly identifiable without the use of other contextual elements”. This hypothesis also views metonymy, which is always a one-correspondence mapping, as typically referential. In the case of metaphor, as discussed in the metonymy part above, “typical predicative use is based on what we have called ‘complex syntactic structure’, so that more than one syntactic element are involved in mapping”. We will tend to think that more than one syntactic element typically represent more than one semantic element, and therefore that typical metaphors correspond to many-correspondence mappings.

1.3.5.2 Lakoff and Johnson’s types of metaphors (1980)

Lakoff and Johnson’s classification of metaphors are the bases of metaphor typology. They distinguish three types of metaphors according to the nature of the source domain:

- structural metaphors, in which one concept is construed in terms of another, as in ARGUMENT IS WAR or LOVE IS A JOURNEY.
- orientational metaphors, in which a concept is construed in terms of physical orientation or spatial directions, as in HAPPINESS IS UP, SICKNESS IS DOWN, and FUTURE IS AHEAD.
- ontological metaphors, in which a concept (usually abstract or immaterial) is construed as a physical object having the same physical characteristics as a concrete element, or an element in space. This type of metaphor allows an abstract concept such as “patience” to be quantified, as in “a lot of patience” or to be viewed as a container or as an object with bounded spaces such as “trouble”, as in “getting into trouble”.

1.3.5.3 Grady (1997)'s classification

Grady proposes another interesting metaphor typology, that explains how metaphorical mappings work. Thus, Grady distinguishes two distinct classes of metaphors according to the motivation of the metaphorical mapping:

- the correlation-based metaphors: mapping between the source and target domains is based on the correlation between two elements or dimensions of “universal human experience” (Grady 1997; quoted in Gibbs and Steen 1997: 85). By “universal human experience”, it is intended “not-culturally-based”, and “basic physical experience—basic sensory-motor, emotional and cognitive experiences— shared by all persons” independently of their cultures. One example of correlation-based metaphor he gives is **STRONG DESIRE IS HUNGER**, as in “Our team is very hungry for a victory”, which means literally “Our team really wants a victory/to win”. Here, the target “a strong desire”, which represents a psychological state, is mapped onto the source “hunger”, which is a physical sensation, because in our basic physical experience, the physical sensation of hunger is accompanied by the psychological state of desiring food. Both sensory and emotional experiences of hunger and strong desire are therefore correlated in our everyday life experience. This correlation in universal human experience enables to understand this metaphorical mapping. It is important to note that both target and source domains are part of basic physical experience, which explains why these types of metaphors are also called “primary metaphors” (Grady 1997; Lakoff and Johnson 1999).

What can be noted about the existence of primary metaphors is that:

- it goes against recent discussions about the abstract, sophisticated and complex nature of target domains in metaphor (Grady quotes Gibbs 1994: 6), and Grady claims (1997: 86):

I have found instead that target concepts of primary metaphors refer to basic cognitive processes, and are typically no more sophisticated or distant from our direct experience than corresponding source concepts.
- it also goes against the “similarity theory” according to which metaphor is motivated when two concepts share relations of similarity between each other. For instance, Grady gives the example of the metaphor **HAPPY IS UP** (Lakoff and Johnson 1980), as in “She is in high spirits”, in which no objective similarity can be found between mood and vertical elevation.

The second type of metaphors he identifies is:

- the resemblance metaphors: mapping between the source and target domains is based on the common features shared by the source and target. One example he gives is BRAVE PEOPLE ARE LIONS. Mapping between the source “lions” and the target “brave people” is made possible because brave people and stereotypical lions are perceived to resemble one another, that is, to be perceived as sharing a common behavioural feature. Grady calls this type of metaphorical motivation “resemblance hypothesis” to distinguish it from the similarity theory (see above). Furthermore, he insists on the fact that resemblance hypothesis is based on how we perceive and represent things that are part of the world. We can then say that the finding of common features between both domains is subjective and based on our experience and beliefs rather than on facts about the world.

The type and motivation of metaphorical mapping as well as its referential or predicative use will be taken into account, when analyzing metaphor from the corpus.

1.3.5.4 Different kinds of metaphors identified in the corpus analysis

In this part, the metaphors that are identified in our corpus-based analyses of body-part terms are presented and then classified in our semantic scale above, so that their more “physical” or “abstract” status can be highlighted.

In our corpus analysis of body-part terms, the following metaphors have been identified:

1. One-correspondence referential resemblance metaphors

- ... AND CHARACTERISTICS OF THE TARGET REFERENT: with this metaphor, one feature of the source domain is mapped onto the target.

- ...AS POWER: this metaphor deals with extended cases of ontological metaphors, that is, personification cases, in which a human characteristic is highlighted and mapped onto the target. According to the nature of the target, metaphor of this type can be subdivided as follows:
 - o ABSTRACT ENTITY AS A PERSON
 - o INANIMATE AGENT AS A PERSON
 - o CONCRETE OBJECT AS A PERSON

- 2. One-correspondence predicative resemblance metaphors
 - COMPUTER METAPHOR: with this metaphor, abstract computer language (data, programs, network file structures or any other conceptual task) is conceptualized in terms of real-world objects or action and a characteristic of the source is highlighted.
 - o ABSTRACT ACTION AS PHYSICAL ACTION

- 3. Many-correspondence resemblance metaphors
 - ...AS POWER
 - o GOVERNING AS WALKING ALONG A PATH: with this metaphor, a set of correlations are found between source and target domain. In “*Guiding deputies with a firm **hand**, President Gorbachev yesterday got his way at the opening session of Congress...*” found in the corpus-based analysis of *hand*, the following sub-metaphors are identified: PRESIDENT AS A DOG OWNER; DEPUTIES AS DOGS.

- 4. Many-correspondence correlation-based metaphors
 - HAPTIC METAPHOR: with this metaphor, target elements are conceptualized as elements involved in touching. Not only does touch imply being in contact and grasping objects, but also “acting” on objects in order to achieve a goal. Metaphor of this type touches on various conceptual domains in the corpus analysis and can be subdivided as follows:

- EXPERIENCING SOMETHING/PERFORMING AN ACTIVITY IS WALKING ALONG A PATH
 - TRANSITION PROCESS IS WALKING ALONG A LINEAR PATH
 - ACHIEVEMENT AS REACHING A FINAL DESTINATION ON A JOURNEY
 - MAKING GOOD PROGRESS AS MOVING TOWARDS A FINAL DESTINATION ON A JOURNEY
- FEELING IS A MOVING OBJECT
 - FEELING PAIN IS PAIN MOVING INTO THE BODY
 - BEING AFFECTED BY PAIN IS BEING TOUCHED BY PAIN
 - EMOTION IS PHYSICAL SENSATION
 - PSYCHOLOGICAL REACTION IS MOVING A CONCRETE OBJECT IN SPACE
- ATTENTION IS TOUCHING/HOLDING IN ONE'S HAND
- EXPERIENCING IS TOUCHING/HOLDING IN ONE'S HAND
 - DOING AN ACTION IS HANDLING AN OBJECT WITH SKILL
- KNOWING IS TOUCHING/HOLDING IN ONE'S HAND
- CONTROLLING IS TOUCHING/HOLDING IN ONE'S HAND
 - POWER IS HOLDING SOMETHING WITH A FIRM HAND/IN ONE'S HAND
 - EXERCISING POWER IS HANDLING AN OBJECT
 - HAVING CONTROL IS UP
 - BEING CONTROLLED IS DOWN
- COOPERATION IS TOUCHING/HOLDING IN ONE'S HAND
 - COLLABORATION IS PHYSICAL BOND
- ABSTRACT AS PHYSICAL
 - MENTAL SKILL IS PHYSICAL SKILL
 - MENTAL FORCE AS PHYSICAL FORCE
 - ABSTRACT FORCE IS PHYSICAL FORCE
 - CAUSE IS PHYSICAL FORCE
 - ABSTRACT CONTACT AS PHYSICAL CONTACT
 - ABSTRACT ENTITY AS PHYSICAL/CONCRETE OBJECT

- QUANTITY AS PHYSICAL INTERACTION WITH AN OBJECT (where, for example, SMALL QUANTITY IS SMALL PHYSICAL CONTACT INTERACTION WITH AN OBJECT; or, more generally, a level of quantity represents a like level of physical contact interaction with an object)

- ORIENTATIONAL/SPACE METAPHOR
 - o CLOSENESS IS TOUCHING
 - CLOSE DISTANCE IS TOUCHING ZONE IN THE BODY-SPACE (physical interaction)
 - CLOSE RELATIONSHIP IS PHYSICAL PROXIMITY
 - MENTAL SUPPORT IS PHYSICAL PROXIMITY (mental interaction)
 - o TIME IS HORIZONTAL ORIENTATION
 - FUTURE IS AHEAD
 - o DISCURSIVE OPPOSITION AS SPATIAL OPPOSITION
 - o CONTROL IS VERTICAL ORIENTATION
 - HAVING CONTROL IS UP
 - BEING CONTROLLED IS DOWN
 - o QUANTITY IS VERTICAL ORIENTATION
 - MORE IS UP

- ONTOLOGICAL METAPHORS
 - o ...AS A CONTAINER
 - BODY-PART AS A CONTAINER
 - ACTIVITY AS A CONTAINER
 - ABSTRACT ENTITY/PSYCHOLOGICAL STATE AS A CONTAINER

1.3.6 Conceptual “Metaphtonymy”

The discussion above has shown that occurrences are generally interpreted metonymically or metaphorically, even though some interpretations can prove to be “subjective”, and vary according to the conception different speakers have of the relations between source and target domains (subjective interpretations will be discussed later in this part). However, some occurrences can be

interpreted “both” metonymically and metaphorically in various ways that will be now discussed. These “both-metonymic and metaphoric” cases have been called cases of “metaphtonymy” by Goossens (1990: 328) who defines this later as “metaphor and metonymy twisted together in an idiom” (Goossens 1990; in Jenner 2002: 167). An idiom is considered a phrase or expression composed of (lexical or grammatical) elements that are their own (lexical or grammatical) meaning when used alone, but which form a complex meaning when used together in a particular order. Idioms are therefore considered “complex” syntactic structures (see semantic scale in the previous section which makes the distinction between “basic” and “complex” syntactic structures), as they are composed of more than one word (syntactic element) and are thus multi-word expressions, whose meaning will be formed by all the elements or words that compose them.

1.3.6.1 Goossens’s types of interaction

First, Goossens (1995) distinguishes two main types of interaction between metonymy and metaphor (Goossens 1995; in Deignan 2005: 61):

1. Metonymy within metaphor: this occurs when a “metonymically used entity is embedded within a (complex) metaphorical expression” (1995:172). This type of metaphtonymy implies that metaphoric and metonymic mappings touch on different elements, and both metaphor and metonymy participate in the derived reading. Below is an example from Goossens (1995; in Croft & Cruse 2004: 218):

(11) *She caught the minister’s ear and persuaded him to accept her plan.*

In this example, “ear” is construed metonymically for “attention”, and “caught” is then construed metaphorically as a causative act, so that “catch somebody’s attention” is interpreted as “make somebody attend/pay attention” (Croft and Cruse 2004).

2. Metaphor from metonymy: this occurs when an expression that has formerly developed a meaning through metonymy is then mapped metaphorically onto another domain. Thus, this type of metaphtonymy implies that a single idiom undergoes successive construals (Croft & Cruse 2004), first a metonymic one followed by a metaphorical one. This type of interaction

will be considered “metaphor based on metonymy” (my term), in which the metonymy is retrieved from the source domain of the metaphoric mapping. To illustrate the metaphor-from-metonymy type, Goossens gives the example of “close-lipped” that can be understood two different ways (Goossens 1995; in Alice Deignan 2005: 61):

...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 is actually talking a lot, but he’s not giving away the information that the hearer wants; in this case the expression is a metaphor, but one which is derived through a metonymy...”

Another example of metaphor from metonymy, taken from Patricia Cornwell, is given by Croft & Cruse (2004: 219):

(12) *Anger slipped out of hiding.*

In this example, a possible interpretation is that “slipped out of hiding” is first interpreted metonymically as “became visible”, and then metaphorically extended to the domain of “anger” as “became perceptible (not necessarily visually)” (Croft & Cruse 2004).

Basically, the distinction between the two types of interaction depends on the number of elements that have a metonymic meaning in the expression: on the one hand, if only one word of the multi-word expression has a metonymic meaning (such as “tongue” in “bite one’s tongue off”), it will thus deal with a “metonymy within metaphor”; on the other hand, if the whole expression that was formerly metonymic is then mapped onto a metaphorical domain, it will thus deal with “metaphor from metonymy” (Deignan 2005).

Another two types of interaction between metonymy and metaphor have been identified by Goossens (1995):

3. Metaphor within metonymy: this occurs when a metaphorical entity is embedded within a metonymical expression. As is the case with the metonymy-within-metaphor type (see above), this type of metaphonymy implies that metaphoric and metonymic mappings touch on different elements, and both metaphor and metonymy participate in the derived reading.

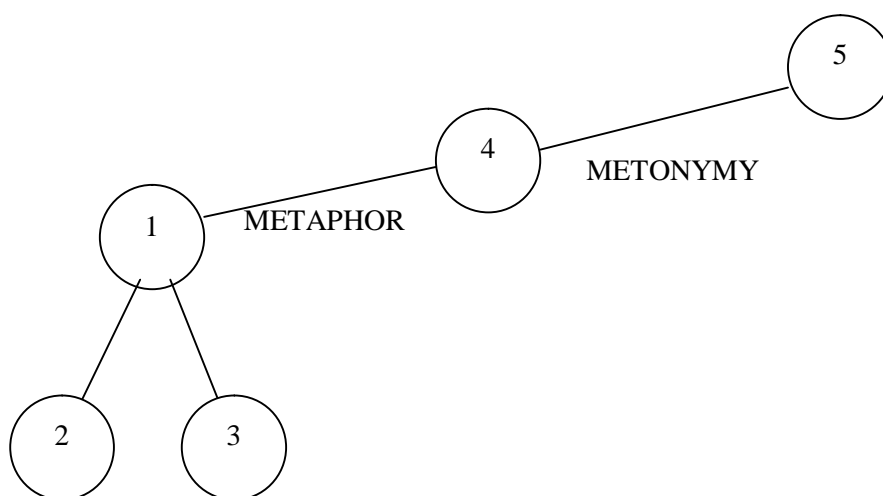
However, this type of interaction is actually rare, as a metaphor tends to “metaphorize” a (complex) metonymic expression (Goossens 1995, in Dirven, Pörings 2003: 367).

4. Demetonymisation in a metaphorical context: this occurs when an expression abandons its former metonymic reading and is included in a metaphorical context (Goossens 1995, in Dirven, Pörings 2003: 367).

1.3.6.2 Geeraerts’s types of interaction

Geeraerts (2006) identifies three basic cases of interaction that can be compared in a way to Goossens’s first three types:

1. Consecutive interaction between metaphor and metonymy: this occurs when “one of the motivational links in the semantics of the composite expression involves a sequence of two extensions” (Geeraerts 2006: 212). In other words, the interaction between metaphor and metonymy is consecutive, when a compound or multi-word expression is construed both metonymically and metaphorically by a sequence of metonymical and metaphorical mappings. He gives the example of “sheep’ head”, which is first construed metaphorically as “a (human) head like that of a sheep”, and then metonymically as “a person with a head like that of a sheep, a stupid person”. Furthermore, Geeraerts proposes a “prismatic structure” of the meaning of the expression, in which the sequence of metaphoric and metonymic extension is highlighted. Below is the prismatic structure of “sheep’s head” (Geeraerts 2006: 223):



- 1 Sheep's head
- 2 Sheep
- 3 Head
- 4 (Human) head like that of a sheep
- 5 Stupid person

According to this prismatic structure, the sequence of metaphor and metonymy leads to, and explains, the motivational basis of the meaning of the multi-word expression “sheep’s head”.

Goossens’s metaphor-from-metonymy type can be considered an instance of Geeraerts’s consecutive type, as this latter encompasses larger cases of sequences. Indeed, it does not always imply a sequence, or an “alternation of metaphor and metonymy” (Geeraerts 2006: 213), but rather a sequence of two extensions that could be a sequence of two metaphoric or two metonymic mappings as well. Geeraerts (2006: 213) gives the example of “hanglip”, which can be paraphrased to “hanging lip”, which is first construed metonymically as “a person with a hanging or protruding lower lip” and then metonymically again as “an unhappy, sulky, pouting person”. Furthermore, a consecutive type does not imply that metonymic and metaphoric mappings occur in a particular order, while the metaphor-from-metonymy type implies the metaphorical mapping is based on the metonymic one, since, as seen above, the metonymy is retrieved from the source domain of the metaphoric mapping.

2. Parallel interaction of metaphor and metonymy: this occurs when “there is a difference in type among the different motivational links that occur in the semantic of a composite expression” (Geeraerts 2006: 214). In other words, both metaphor and metonymy participate in the derived reading of the compound or multi-word expression in a parallel way that is explained by Geeraerts, as below (2006: 214):

...If, for instance, the motivational link at the top level of the prismatic structure is metaphorical and one of the links at the lower level is a metonymical one, metaphor and metonymy work in parallel to produce the derived reading of the expression, or at least, both a metaphorical and a metonymical path could be reconstructed to arrive at the derived reading.

The compound “droogkloot” (“dry testicle, i.e. “boring person, bore”) (Geeraerts 2002; quoted in Benczes 2006: 164) illustrates the parallel type. Here, the compound is construed metonymically as “a person with dry testicles”, this first metonymic interpretation being an input leading to the metaphorical extension that leads to the “boring person” reading. Goossens’s metonymy-within-metaphor and metaphor-within-metonymy types of interaction can be considered instances of Geeraerts’s parallel interaction type, since, here again, this latter encompasses larger cases of interaction. Indeed, it implies that metaphor and metonymy can be present or interact in various ways depending on how the expression is composed, but, contrary to Goossens’s types, it does not specify that a certain number of elements need to have a metaphorical or metonymical interpretation or that metaphor and metonymy touch on different element of the expression.

3. Simultaneous interaction of metaphor and metonymy: this occurs when the different motivational links that occur in the semantic of a composite expression are interchangeable. Thus, both metaphor and metonymy participate in the derived reading of the expression, in no specific order, so that either the metonymic extension can lead to the metaphoric one or the metaphoric one can lead to the metonymic one without changing the semantics of the expression. Geeraerts (2002; in Benczes 2006: 164) gives the example of “badmuts” (“swimming cap”, i.e. “bald person”) that can be analyzed two ways: a first one, in which the expression is first construed metonymically as “a person who looks as if he was wearing a swimming cap, a bald person”, or a second one, in which the expression is first construed metaphorically as “a head that looks as if it is covered by a swimming cap, a bald head” and from there extended metonymically to “a bald-headed person”. The author points out that both ways of analysis are valid and that no either way can be favoured over the other.

In our study of body-part terms (see the following section about the study of body-part terms), interaction between metonymy and metaphor mostly involve idioms composed of a body-part term. This interaction will be analysed according to Goossens’s types, so that both metonymic and metaphorical links can be clearly identified. However, as shown by Geeraerts’s types of interaction, a wider scope is sometimes necessary, so that all instances in which interaction is found can be classified.

First, regarding Geeraerts's consecutive type of interaction, the sequence does not always involve an alternation of metaphor and metonymy, but can involve a sequence of two metonymies, for instance. In our study of body-part terms, a sequence of two metonymies or the presence of two metonymic construals in the same expression is called "double metonymy". When double metonymy occurs in the semantics of an expression, the body-part term that is part of this expression is classified in the metonymic part, even if double metonymy implies a more complex mechanism of semantic extension than one metonymy only. It is the same thing for metaphor; in our study of body-part terms, a sequence of two metaphors or the presence of two metaphorical construals in the same expression is called "double metaphor". When double metaphor occurs in the semantics of an expression, the body-part term that is part of this expression is classified in the metaphorical part, even if double metaphor implies a more complex mechanism of semantic extension than one metaphor only.

Second, in our study of body-part terms, it is not always obvious to identify a line of analysis that clearly specifies the order in which metonymy and metaphor appear in cases of interaction between metonymy and metaphor. In such cases, both metonymy and metaphor participate in the derived reading of the expression, but in an independent way that leads to a complex derivational meaning composed of both metonymical and metaphorical semantic interpretations. This type of interaction has been called "Metaphor with Metonymy" (my term) in our corpus-based analyses, and mostly touches on body-part terms that are part of a basic type of syntactic structure (one-word element) (see corpus-based analyses of *touch* and *palm*, in the second part of this dissertation). "Metaphor with metonymy" type of interaction can also touch on body-part terms that are part of an expression or a complex type of syntactic structure (more than one-word element). In this case, metonymic and metaphorical interpretations are found in the different elements of the expression (see "" in the corpus-based analysis of *hand*, in the second part of this dissertation). With this latter type of interaction, real cases of metaphonymy will be considered the ones found on a single element or element that is part of a basic type of syntactic structure, since a single element has a complex derivational meaning composed of both metonymic and metaphorical senses. An example of our "metaphor with metonymy" on one element or on a basic type of syntactic structure is also found below (Croft and Cruse 2004: 220):

(13) *A yellow Porsche drew up in front of the bakery.*

In this example, the action verb “draw up” gives a metaphorical interpretation on the nominal phrase “a yellow Porsche”, since this latter is personified and conceptualized as the human agent, that is, the driver responsible of the action of drawing up. However, this verb describes the motion of the car, not that of the driver, who is not visible to the speaker, so that this example cannot deal with a case of pure metaphor. Hence, Croft and Cruse (2004) propose a reading of this example in which the main element “Porsche” represent “a kind of fusion of car and driver”, so that the interpretation to give is neither purely metonymic nor purely metaphorical, nor partly metonymic and partly metaphorical, but something in-between.

1.3.7 Periphrasis and metonymy

Another linguistic phenomenon will interact in our analysis: the periphrasis, which can be confused with metonymy in some cases. It can be defined as the substitution of a descriptive phrase for the name of the direct concept it represents. As such, the periphrasis touches especially on lexis and semantics, since it deals with an indirect way of referring to a concept by the use of some lexical words. This type of periphrasis will be called “lexical” periphrasis (my term) to distinguish it from “grammatical” periphrasis (my term), which deals with the use of a longer phrasing or grammatical form, in place of a possible shorter one, to refer to a grammatical concept, such as a causative form, which can be expressed by the use of an auxiliary word instead of an inflection.

In the corpus-based analyses of body-part terms, the discussion about periphrases touches on lexical periphrases. We will therefore focus on lexical periphrases in this part. Furthermore, as it is the case with metonymy, lexical periphrases touch on different types of concepts and are thus:

- nominal: when referring to a nominal concept, that is, a physical object that can be touched or the thing signified.
- verbal: when referring to a verbal concept, that is, a complex event, in which complex links between elements are involved (for instance subject/object or agent/patient relationships; verb/adverb link that shows the circumstance in which an event is performed).

For instance, the phrase “a play of swords” is considered a lexical periphrasis, since it is used as a substitution for the direct concept “battle”. This periphrasis is a description of the concept it represents: here we could say that “a battle IS a play of swords”. The two

expressions are thus associated by a definition/concept or a description/concept link, in which the definition or description of a concept stands for the direct concept itself. This link is shown in the schema below:

PLAY OF SWORDS	=	BATTLE
(= description of the concept)		(= concept)

This lexical periphrasis is also of nominal type, since the concept “battle” it represents, is considered a nominal concept that can be represented by a physical event in the physical space.

A periphrasis can thus be considered an indirect way of expressing a direct concept. Syntactically speaking, the periphrasis will be easily recognizable, since it is represented by a long phrase or expression of several words, while a shorter phrase or a simple word would be enough to express the same idea.

Furthermore, two types of lexical periphrases need to be distinguished:

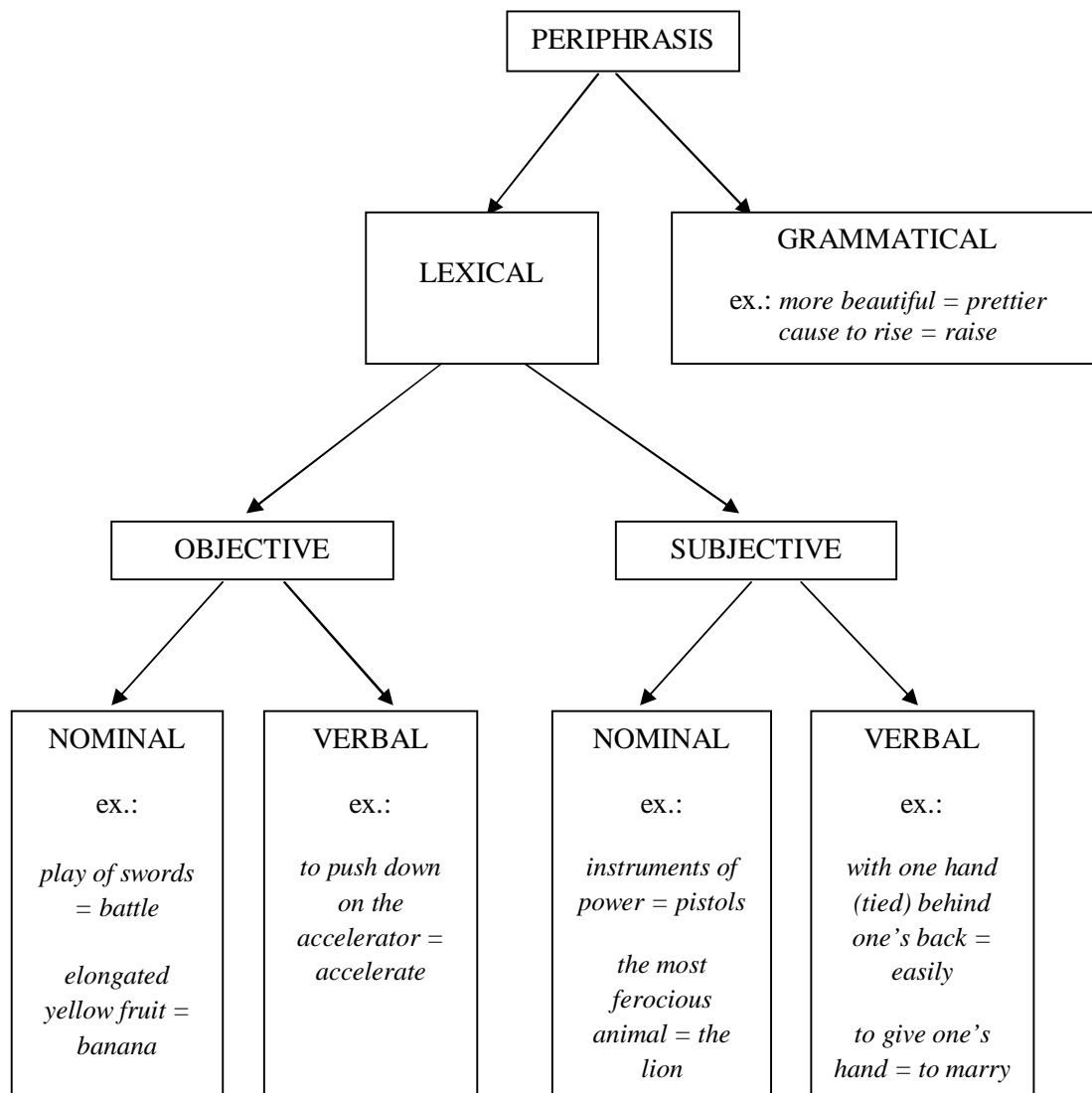
- the “objective” periphrasis (my term), in which the periphrastic phrase describes or defines “objectively” the direct concept it represents, as it could be found in the dictionary. For instance, the example above can be considered an objective lexical periphrasis (of nominal type), since a battle can really be defined as a play of swords. In the corpus-based analysis of *push*, “push down on the accelerator” is an objective description of what the concept of “accelerating” is, since the gesture or action of “pushing down on the accelerator” literally refers to the act of accelerating and this gesture is made when accelerating. (Note that “push down on the accelerator” is of verbal type as it refers to an event.)
- the “subjective” periphrasis (my term), in which the periphrastic phrase describes or defines “subjectively” the direct concept it represents. A “subjective” periphrasis means here three things:
 - the description of the concept depends on the point of view of the speaker/writer/language user and thus different types of descriptions could be found for the same concept according to the utterer/writer/language user’s point of view, or according to how the utterer/writer/language user conceptualizes the concept he describes. For instance, the expression “with one hand (tied) behind one’s back” to

mean “easily” can be considered a subjective periphrasis or a subjective description of what the concept of “easiness” is, since the physical position of having a hand behind one’s back while doing something does not literally mean that this thing is easy to do, but can *imply* it according to your domain of experience or knowledge. Indeed, (you know that) performing an action with one hand behind one’s back implies that you do not need your hand to perform the action because it is easy enough, so that you can do it without using your hand. Thus, a complex mental processing is required to understand the description/concept link between both phrases. The description “with one hand (tied) behind one’s back” is the utterer/writer/language user’s *interpretation* of what the concept of easiness is. Furthermore, the concept of easiness cannot be defined “literally”, since it refers to a subjective quality that can only be defined according to our experience or knowledge, contrary to the concept of accelerating that requires the same technical knowledge for everyone to accomplish it.

- the description of the concept only touches on one aspect of the concept and not the concept as a whole. In this case, the speaker/writer/language user focuses on the aspect of the concept they are interested in to make a particular effect. For instance, in the corpus-based analysis of *hand*, the expression *give one’s hand* is a subjective description of what the concept of “marrying” is. Apart from being an interpretation of what the marriage is, based on cultural knowledge (see in the corpus-based analysis of *hand* in the second part of this dissertation), “give one’s hand” corresponds to the gesture made while the couple exchange their vows during the ceremony. By focusing on this gesture when referring to the concept of marrying, the utterer/writer/language user makes this gesture important, and touches on one aspect of the marriage only, as if marriage were based on this gesture. Here again, complex mental processing is required to understand the description/concept link between both phrases. The description “give one’s hand” depends on the utterer/writer/language user’s construal of the concept of marriage.
- the description of the concept is an expression that is a kinegram (Burger 1976), that is, a linguistic representation of conventional nonverbal signals or “emblematic” gestures. In this case, this description is subjective, since the gesture it represents is based on cultural knowledge. For instance, in English, the expression “be rubbing one’s hand” is a physical/gestural description or meta-linguistic representation of the

concept of delight. Furthermore, the English expression “shake one’s head” is also a physical/gestural description of the concept of negation.

Below is a schema of the types of periphrases discussed above:



In the corpus-based analyses of some terms, some occurrences are difficult to analyse, since some periphrastic phenomena can be confused with metonymy. Indeed, both periphrasis and metonymy have the following properties in common:

- the “target” concept or expression is referred to indirectly instead of directly. For instance, when *hand* is used metonymically, and stands for the person to which it belongs, the target “person” is referred to indirectly by the means of one of their body-parts.
- both periphrastic, or source, phrase and target concepts are associated. For instance, the periphrasis “a play of swords” is associated to its direct concept “battle”, since both designates the same concept “battle”, even if one indirectly and the other one directly. Indeed, a “play of swords” IS a “battle”.
- both periphrastic, or source, phrase and target concept are part of the SAME domain of experience. For instance, both the periphrasis “a play of swords” and the target concept “battle” are part of the same domain of “Battles” or “War”.

However, even though periphrasis and metonymy are part of the same domain of experience, periphrasis/source phrase and target one are not associated the same way:

- in periphrasis, both periphrastic and target phrases have the SAME roles in the same domain of experience. In other words, both phrases are part of the SAME stage of this same domain of experience. For instance, the periphrasis “push down on the accelerator” and the target “accelerate” have the same (grammatical) role in the domain of accelerating, since both correspond to the action of accelerating.
- in metonymy, source and target phrases have two DIFFERENT roles in the same domain of experience. In other terms, the two phrases are part of two DIFFERENT stages of this same domain of experience. For example, the metonymic source term “to hand” and the target expression “to give by the means of the hand” have different (grammatical) roles in the domain of “passing something from one owner to the other”. Indeed, the source “hand” represents the means by which the action “give” can be performed, while the target “give” represents the action itself. Both source and target phrases are part of the same complex event of “passing something from one owner to the other”, but the two phrases are part of different stages of this complex event, in which the means, “hand”, stands for the action, “give”.

Both common and differing properties of periphrasis and metonymy that have been discussed above are summarized in the schema below:

Metonymy	Periphrasis
target is referred to indirectly	
source/periphrastic phrase and target one are associated and part of the same domain of experience, BUT:	
association of two DIFFERENT roles in the same domain of experience, so that both source and target phrases are part of two DIFFERENT stages of this same domain of experience (see for instance pragmatic function MEANS-ACTION, MEANS-AGENT, CAUSE-EFFECT, etc.)	association of the SAME roles in the same domain of experience, so that both periphrastic and target phrases are part of the SAME stage of this same domain of experience (see for instance GESTURE/ACTION conformity)

According to the differing property that distinguishes periphrasis from metonymy, that is, the different ways of associating both periphrastic/source and target phrases, subjective periphrasis of verbal type are considered metonymy, and, more exactly, “periphrastic metonymy” in our corpus-based analyses. Indeed, in cases of subjective periphrasis of verbal type, the link between the description and the concept that are part of the same complex event depends on mental processing similar to what happens in metonymic conceptualization, since the link between the two elements is not a link of conformity, or an “EQUAL” type of relation, as is the case with objective periphrases, but another type of relation between two different roles in the same functional domain. In other words, in cases of subjective periphrases of verbal type, two elements that are part of the same complex event are associated, but do not correspond to the same concept, but to two different concepts. This is shown in the table below, in which the three cases of subjective metonymy explained above, have been analysed, in such a way that the type of link, relation or association between the two elements are highlighted:

	Subjective periphrases of verbal type based on interpretation of the target	Subjective periphrases of verbal type based on one aspect of the target	Subjective periphrases of verbal type based on meta-linguistic (physical/gestural) representation of the target
Example	“with one hand tied behind one’s back” = “easy”	“to give one’s hand” = “to marry”	“to shake one’s head” = “to negate”
Periphrasis (description)	“with one hand tied behind one’s back”	“to give one’s hand”	“to shake one’s head”
Target (concept)	easiness	marriage	negation
Meaning	Something that is literally done with one hand tied behind one’s back DOES NOT MEAN that it is easy, but it IMPLIES it.	The gesture of giving one’s hand DOES NOT CORRESPOND TO the WHOLE act/concept of marriage, but IS PART OF it.	The gesture of shaking one’s head IS A META-LINGUISTIC REPRESENTATION of the concept of negation, but the act of negating something can occur WITHOUT PERFORMING THIS GESTURE
Type of link between periphrasis/target	MANNER-EFFECT link	PART-WHOLE link	SIGNIFIER-SIGNIFIED link

According to this table, the type of link between the periphrasis and the concept it describes is thus a metonymic link between a source (the periphrasis) and the target (the concept it describes). That is why subjective periphrases of verbal type are considered metonymies, or more exactly periphrastic metonymies, while only objective periphrases are considered periphrases.

In the corpus-based analyses (in the second part of this dissertation), periphrastic metonymies are usually represented by multi-word expressions or idioms composed of a verb and a noun, in which the name of a body-part appears (see especially corpus-based analyses of *finger* and *hand* with expressions such as “shake one’s finger at someone” or “hold one’s hand up”). These metonymic expressions or idioms also have a literal meaning, which consists of using the body-part for particular reasons, such as motion, haptic touch, or emblematic gestures. For instance, to illustrate the “motion” reason, a literal interpretation of “with one hand tied behind one’s back” would consist of moving one’s hand from a rest position to a position in which the hand is behind one’s back. Moreover, to illustrate the “haptic touch” reason, the literal expression “not touch something with a bargepole” would imply an absence of (continuous) contact between an object and a bargepole, this contact enabling one to know the physical characteristics of the object. Finally, to illustrate the “emblematic gesture” reason, the literal interpretation of “shaking one’s head” would consist of making or performing the gesture of shaking the head. However, contrary to the reasons related above, this literal gesture would also be interpreted symbolically at the same time, since it has a communicative value for members of the same culture. Indeed, in English, shaking one’s head is a gesture that is performed when negating something. The performance of the gesture only is interpreted as a negation for the members of the same community.

The different types of periphrastic metonymies explained in the previous table are found in the corpus-based analyses. Their characteristics are summarized in the table below:

Periphrastic metonymies based on interpretation of the target	Periphrastic metonymies based on one aspect of the target	Periphrastic metonymies based on physical/gestural representation of the target
multi-word expressions or idioms		
linguistic representation of a literal gesture which is not an emblematic gesture		linguistic representation of a literal gesture which is an emblematic gesture
the source describes a literal/physical situation and interprets it as being the target	the source describes a literal/physical situation, which is an aspect of the target	the source is a physical/gestural representation of the target
Examples: <i>with one hand tied behind one's back</i> <i>hand over fist</i>	Examples: <i>give one's hand</i> <i>not touch food</i>	Examples: <i>shake one's head</i> <i>hold one's hand up</i>

1.3.8 Classification according to grammatical characteristics

The first two steps deal with semantic analysis, as we classify occurrences according to the meaning they convey. This third step deals with a more grammatical analysis, as occurrences will be distinguished according to their grammatical features (see appendixes).

1.3.8.1 *Classification according to grammatical categories*

First, the occurrence will be classified according to the grammatical category they belong to: noun, verb, adjective, and adverb. Classifying occurrences according to their grammatical categories may also be meaningful for semantic interpretation. For instance, in the case of the analysis of “hand”, the sense of the verb “to hand” will not be interpreted as the prototypical sense of the noun “hand”. “To hand” will be paraphrased by “give by/using/by the means of the hand”. The paraphrase helps understand “hand” metonymically, and thus the verb “to hand” will be classified as a metonymy. The choice of literal or metonymic use may also be helped by diachronic analysis, since the grammatical category of a term, such as a verb, may be created through time by extension. Thus, a literal sense of a term would usually appear in a particular grammatical category, and then, by extension, a new sense of the term would be created, as well as a “new” grammatical category use of that term.

1.3.8.2 *Classification according to grammatical forms*

The occurrence will be then classified according to the “grammatical” form it has: for example if it is a verb, the form could take the gerund (-ING), simple past (-ED), past participle (-EN), and the infinitive forms. Here, again, classifying occurrences according to their grammatical forms may be meaningful for semantic interpretation as well. For example, in the case of the analysis of *seize*, the use of the present perfect tense (HAVE + -EN form) on the verb *seize* helps in interpreting *seize* as a metonymy, in which the act of seizing stands for its result.

Classifying occurrences according to grammatical characteristics might prove to be useful. The function of this analysis is to show that the body plays an important role in our everyday experiences, this importance having some repercussions in language, and more generally in communication. The corpus analysis will show that the body “takes life” in language, and this is seen in grammar itself. Therefore, one grammatical category and form can prove to carry meaning as well, and it seems therefore useful to distinguish possible “grammatical meanings” as well.

1.3.8.3 Fourth step: classification according to syntactic elements in contact with body-part terms

This ultimate step consists of classifying occurrences according to the collexemes, or syntactic elements, body-part terms are in contact with.

2 CORPUS-BASED ANALYSES OF BODY-PART TERMS BASED ON A COGNITIVE APPROACH: HAND, FINGER, ARM, ELBOW, ELBOW (BROWN), KNUCKLE, KNUCKLE (BROWN), PALM, FINGERTIP, WRIST, TOUCH, PUSH, HANDLE, SEIZE, MANIPULATE, WIELD

As a reminder, nouns referring to body parts will first be analyzed according to the greater number of instances retrieved in the corpus. Verbs referring to events involving body parts will then follow.

2.1 Hand

2.1.1 Literal sense

The literal sense of *hand* refers to the actual body part. In all these occurrences (150 out of 424; see appendix 1), *hand* is a noun. When analyzing the zone of contact, out of 150 examples of the literal sense of *hand*, the body-part *hand* is in contact with other body-parts (body parts of another person mainly) in 70 examples. What can be noted first is that the *hand* does not play the same role when put in contact with another physical element in quite a few literal examples. First, the *hand* appears to have a “passive” role when in contact with another physical element, which is usually another person’s body part, as in the following example:

(1) *He took her **hand** but this time, instead of the formal kiss, he turned her hand over and kissed the palm, sending little ripples of pleasure coursing through her body.* (Corpus:191, BNC_Written.txt at position 5072997)

In this example, the subject “He” is the agent, and has an active role, since he performs the taking event. The agent’s hand is here the implicit “means of contact”, or instrument by which the taking

event can be performed and by which contact with the object “hand” can occur. The means of contact “hand” is thus considered the “active” element that moves to the “passive”, or fixed, element, which is identified as “her hand”. In quite a few examples in the corpus, though, the *hand* appears to have a more “active” role, since it is the means by which action and contact can occur, as in:

(2) ...he shaded his eyes with one **hand**. (Corpus: 149, BNC_Written.txt at position 5795326)

When no contact occurs with another physical element (25 occurrences out of 150, see appendix 1), the *hand* may still play an active role and be the means used to make significant gestures that have their own meanings, as displayed by emblematic gestures (Beattie 2003). Consider the following example:

(3) If you aren't using flags, cross your arms in front of your body with your right **hand** clasped over the left. (Corpus: 145, BNC_Written.txt at position 504438)

In (3), the hand is used to reproduce letters of the semaphore alphabet, which is a gestural system for sending information by means of two flags that are held one in each hand and by means of the position of the signaller's arms (definition based on thefreedictionary.com). Furthermore, in the following example, it still deals with the literal sense of *hand*, as the expression “wave one's hand” corresponds to the literal gesture of waving one's hand:

(4) Fiona leant back against the rear of the dressing table, breathing hard, and waved one **hand**, wafting air over her face. (Corpus: 150, BNC_Written.txt at position 5658406)

In (4), “wafting air over her face” helps us represent the gesture of “waving one hand”, since it is a specific gesture made to waft air by moving one's hand back and forth in front of the face. This is as an emblematic gesture shared by members of the same culture or community. Then, if somebody sees this gesture, he/she will understand that the person doing it needs some air because it is hot or he/she has some trouble breathing. While in (4), “hand” is interpreted literally in the literal gesture of “waving one's hand, it is not the case in (5), which is thus interpreted metonymically (see example (39) in the metonymic part 2.1.2):

(5) Crabbe asks rhetorically why no-one raised a **hand** to help Grimes's workhouse slaves... (Corpus: 156, BNC_Written.txt at position 1318108)

The expression “wave one’s hand” may also be understood as “point to someone/somebody” as below:

(6)*The congenitally odd-jeaned person to my left will take my place," I mumbled, waving one **hand** in his direction...(Corpus: 169, BNC_Written.txt at position 5689511)*

In this case, the way the speaker “waves his/her hand” can be mentally represented by the hearer in the context of designating someone placed in a particular point in space (see “to my left”, “in his direction”).

In the example below, the *hand* is not in direct contact with another element and has no role, since it is used as a measure indicator:

(7)*Then I saw the small monster too. It was lying on the ground. It was hurt. It was very small, just a little bigger than my **hand**. (Corpus: 186, BNC_Written.txt at position 5416202)*

To summarize, below are the semantic features that emerge from the literal sense of *hand* in this corpus:

- the *hand* is the means by which the agent performs the action that results in putting in contact the *hand* and another physical element (such as another body-part, a person, a concrete object). In such a case, the *hand* has a more active role than when it does not participate in the action.
- the *hand* is a fixed physical element with which an active element (such as one of the agent’s body part, especially the hand) makes contact. In such a case, the *hand* has a passive role.
- the *hand* is the means by which emblematic gestures can be made (active role).
- the *hand* is the means by which measure of a physical object may be estimated (passive role).

2.1.2 Metonymic use

2.1.2.1 *Hand as a characteristic of a category*

With this type of metonymy, *hand* appears in compounds as a noun, but in an adjectival position (see also corpus-based analyses of *arm*, *touch* and *push*). Two semantic interpretations are found.

2.1.1.1.1. *A twofold opposition in a category*

Regarding this first interpretation (57 occurrences out of 116 metonymic examples; see appendix 1), *hand* is a modifier in compounds, as in the following examples:

- (8) *Marginal plants are divided in the same way as ordinary herbaceous perennials, using two **hand** forks back to back and prising the plants apart. (Corpus: 194, BNC_Written.txt at position 763457)*
- (9) *What's wrong?" asked his mother as the boy stood staring at the moving **hand** rail. (Corpus: 192, BNC_Written.txt at position 5247959)*
- (10) *These are **hand**-painted and fired replicas of existing patterns. (Corpus: 176, BNC_Written.txt at position 3020099)*
- (11) *For the inexperienced, it is advisable to pin and tack before permanently **hand** or machine stitching seams. (Corpus: 187, BNC_Written.txt at position 604486)*

As such, *hand* gives information about the head of the compound, that is, on the nouns “forks” and “rail”, on the past participle “painted”, and present participle “stitching” respectively. In all these examples, *hand* focuses on one salient property of the category denoted by the head, which distinguishes this latter from other elements of the same category. More precisely, *hand* means “manually”, by opposition to “mechanical” or “machine-based”, this opposition being implicit. Thus, a “hand-painted replica is a type of replica painted by hand that needs to be distinguished from another type of replica: one painted “mechanically”. This twofold opposition “by hand”/“mechanically” may characterize the category “painting”. By using *hand*, one of these two properties of the concept is referred to, while the opposite one is simultaneously excluded. The “manually” property may be expressed by the prepositional phrase “by hand”, as below:

(12) *The trees screw into the base, and their trunks and leaves are made of metal, thickened with specially grown dwarf twigs. Every leaf was shaped by **hand**.* (Corpus: 154, BNC_Written.txt at position 3033251)

(13) *To make a concordance of a lengthy text by **hand** calls for months or years of tedious labour. With the aid of a computer, concordances of many kinds can be made with comparatively little difficulty.* (Corpus: BNC_Written.txt at position 4076565)

The prepositional phrase, *by hand*, still semantically conveys the twofold ‘manually’ versus ‘mechanically’ opposition, even if its syntactical structure makes one believe such a use of *hand* is literal. Indeed, the metonymic interpretation of *hand* in the examples above seems to be due to its adjectival position in the phrase. However, semantic interpretation of *hand* goes to the metonymic interpretation as well; even if the phrase “shaped by hand” implies a literal use of the hand when shaping every leaf, it is not so clear with “make a concordance by hand”, in which *hand* means “manually”, but in the sense of “humanly-based” by opposition to “mechanically” or more exactly “electronically-based”. Such a prepositional phrase could thus also reveal the BODY PART FOR A PERSON, or, more generally, PART FOR WHOLE, conceptual metonymy. In the example below, *hand* refers to one of the two properties of the category as well, in which the opposition does not treat the twofold manually versus mechanically opposition, but the humanly-based versus the non-humanly-based opposition:

(14) *They have also added to their range of superb **hand**-pollinated delphiniums with the inclusion of the lavender-grey "Southern Debutant".* (Corpus: 158, BNC_Written.txt at position 94862)

These hand-pollinated delphiniums are implicitly opposed to other, “bug-pollinated”, delphiniums. As *hand* here means humanly-based, another metonymic interpretation is found; indeed, a (whole) human being is conceptualized as a body part *hand*, so that this example also suggests the BODY PART FOR A PERSON or more generally PART FOR WHOLE conceptual metonymy and thus reveals a double metonymy.

There is another type of twofold opposition in an example such as the following:

(15) *The plane will be guarded from its arrival in Paris, he said.
"We will reinforce the controls on passengers, **hand** baggage and hold baggage.* (Corpus BNC_Written.txt at position 2705417)

In (15), “hand baggage” designates the baggage that are kept in hand or held in the hand in the context of travelling by plane, by opposition to the “hold baggage”, which designates the checked-in baggage, or the baggage that cannot be carried on, in the airport.

2.1.1.1.2. A multiple opposition in a category

In the examples below, *hand* does not imply a twofold opposition in a category but rather a multiple one:

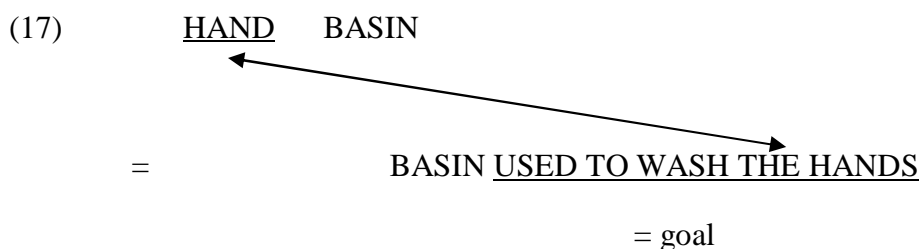
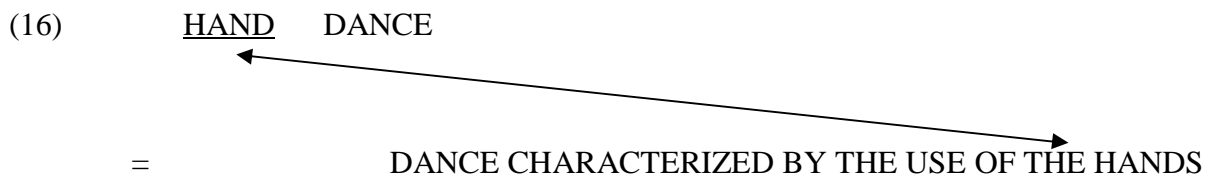
(16) *He had wept almost at the calling up of Michael Soames, who he thought might never dance again, but had given us a most glowing description of an Egyptian **hand** dance by Mr Anton Dolin. However no-one had ever heard of dancing in Church, except in Seville in Spain, so we had to stick to choral and solo singing. (Corpus: BNC_Written.txt at position 2786621)*

(17) *On a floor tiled in mother-of-pearl, the alabaster bath and **hand** basin designed by the architect have silver taps while, inset behind the bath, the water closet is enclosed in a carved chair. (Corpus: BNC_Written.txt at position 3001024)*

(18) *He took a pristine white handkerchief out of his pocket and rubbed at the faint **hand**-print Kenneth had left on the glass partition...(Corpus: 167, BNC_Written.txt at position 5794788)*

In all these examples, *hand* is still a modifier and gives information on the head, that is, on the nouns “dance”, “basin” and “print” respectively. In (16), a “hand dance” designates a type of dance, which is characterized by the movements of the hands; in (17), a “hand basin” designates a basin whose basic use is to wash one’s hands; and in (18), a “hand-print” is a print of a hand. As exemplified by the above phrases, *hand* focuses on the salient property of the category denoted by the head *dance* that distinguishes this latter from other elements of the same category. For instance, a *hand dance* is a type of dance which is to be distinguished from other types of dances characterized by other body parts, such as the *belly dance*, which is characterized by hip and abdominal movements. In such a case, the salient property of a *hand dance*, when compared with other types of dances, is the means used or in focus when dancing. Furthermore, a *hand basin* is a type of basin that can be distinguished from other types of basin, such as the *sink*, which is basically used to wash food. The salient property of a *hand basin* is therefore what it is used for. The

semantic features of *hand* in *hand dance* and *hand basin*, for instance, are represented in the schema below:



In both examples then, the single term *hand* is part of a more complex semantic structure (see schemas above) and creates a subclass inside a larger category. The compound thus represents an hyponym of the category described by its head, this latter being characterized by a “bundle of properties” (Otal & Navarro I Ferrando, 2005: 19). This reflects the general PART FOR WHOLE metonymy, since a subcategory is part of a larger basic one, and, more specifically, the SALIENT PROPERTY FOR A BUNDLE OF PROPERTIES metonymy (Otal & Navarro I Ferrando 2005: 19).

By focusing on a salient feature of the category, and thus creating a subcategory of the main category, the modifier also helps understand how a language is conceptualized. Indeed, identifying the semantic relations between the modifier and the head, and the frequency of use of this type of relation in the language, allows the identification of how a concept is perceived, and which feature of an entity is considered more important than others; furthermore, the reason why this feature is highlighted or considered more important than others may be hypothesized. Such a type of identification allows one to compare languages with one another, and to note their possible different conceptualization of objects. For instance, an object may be described differently in English and

Spanish, according to what is considered its salient feature, as in the examples below (Otal & Navarro I Ferrando, 2005: 20):

English	Spanish	Gloss
<i>push chair</i>	<i>silla de paseo</i>	'chair of walk'
<i>seat belt</i>	<i>cinturón de seguridad</i>	'belt of safety'
<i>hiking boots</i>	<i>botas de montaña</i>	'boots of mountain'

These compounds show that the notion of salience is not the same from one language to the other. Indeed, when resorting to the modifier *push* to create the subclass *push chair*, *English* metonymically highlights and focuses on the manner of moving the object *chair*. Spanish uses the prepositional phrase “of walk” to express this feature, so that Spanish highlights or focuses on the purpose of moving the chair. The notion of salience is also different when lexicalizing the item seat belt. English metonymically focuses on the location of the object belt, which is found “on the seat”, while Spanish focuses on its function or purpose, since a seat belt is a belt used “to remain safe”. These salient features are inversely found in English and Spanish with the lexicalization of the item “hiking boots” which shows that English highlights the function of the boots, while Spanish highlights its location with the prepositional phrase “of mountain”.

2.1.2.2 *Hand as a person*

As a noun, the literal sense of *hand* as body part is extended metonymically in the following examples. When having this metonymic interpretation, *hand* refers to a person/human being, and is a noun (23 occurrences out of 23 of this metonymic type; see appendix 1). The *hand* corresponds to the person it belongs to, and is the salient part acting in the process described by the verb. This metonymy highlights the role played by the *hand* in the process. Consequently, the *hand* is personified and becomes an animate subject, and the source of the action, as in the examples below:

- (19) *Having completed a tour of the museum, Elisabeth and Svend found themselves back in Svend's office, where fresh coffee had been placed by an unseen **hand**.* (Corpus: 163, BNC_Written.txt at position 4854310)
- (20) *"God send you good keeping. "Written this day at Westminster by the **hand** of your loving mother "ELIZABETHWOODVILLE" (Corpus: 184, BNC_Written.txt at position 5204900)*

(21) ... And a **hand** waved back! It was holding a newspaper and it belonged to an old gentleman. (Corpus: 189, BNC_Written.txt at position 5361559)

(22) He thought he saw her **hand** move towards her machine gun, but then one of the soldiers in white ran down the aisle and shot her again through the head. (Corpus: 141, BNC_Written.txt at position 6016560)

(23) His steady **hand** cut us "steaks by the slice with no wastage at all. (Corpus: BNC_Written.txt at position 2853004)

In all these examples, *hand* can be replaced by “person”, and reflects the “MEANS FOR AGENT” metonymy. It is not literally the hand that is the agent of the actions “place” in (19), “write” in (20), “wave back” in (21), “move” in (22), and “cut” in (23) but the person to whom it belongs. Velasco (2002) talks about “grammatical metonymy” in cases as these, as metonymy does not just highlight the semantic properties of the sentence, but also modifies syntactic structures of the sentence itself. Indeed, by using a metonymy as the MEANS FOR AGENT metonymy, the “real” agent of the sentence is excluded from the syntactic structure of the sentence, even if implicitly understood. The result of such a metonymic mapping is the fact that the agent loses its prominent role, while the *hand* achieves a more relevant one, as it is in focus in the metonymic structure of the sentence. The grammatical clause is then reorganized with the valency reduction, and the predicate argument is raised to the subject position, a place that is considered as the most privileged position by many linguists (Dik 1989; Langacker 1991). As Velasco (2002: 313) suggests:

...the metonymy serves to upgrade a non-first argument to the most privileged position in the clause (i.e. the subject position). Therefore this metonymic mapping is a device for perspectivising a situation the same way the passive voice is.

The passive voice below, which raises the predicate *hand* to the position of subject, can be compared with the metonymic mappings in (19) through (23), as it conveys the same effect, even if *hand* is employed “literally”:

(24) The dreadful cries ceased as a **hand** was clapped roughly over the young woman's mouth. (Corpus: BNC_Written.txt at position 5232894)

In (25) below, metonymic *hand* seems to refer to the personality of the person rather than the person itself as a whole:

- (25) *Were Crabbe insincere, we should not return, but disapproval is as genuine in his **hand** as indignation in Carlyle's, and, like Carlyle, he never hesitates to turn his weapon against himself.* (Corpus: 194, BNC_Written.txt at position 1329153)

2.1.2.3 *Hand as power*

The *hand* plays a central role in communication, as it is an efficient tool for mental representation. The imaginary contact between the *hand* and the target object confers a central role on the *hand*, as hand contact can be metonymically associated with “power”, “protection”, or, conversely, “non-protection” according to the entity the *hand* belongs to. With such a metonymy (10 occurrences out of 116 metonymic examples; see appendix 1), the hand belongs to abstract entities, so that these latter are personified (they have “hands” as human beings) and their hand is in focus, since it represents the salient element that gives them the power of action:

- (26) *The **hand** of betrayal and treason has reached the martyr President Rene Muawad, the official Syrian news agency, Sana, said.* (Corpus: 194, BNC_Written.txt at position 2125331)
- (27) *We pray for your guidance on leaders, and your **hand** of comfort on the innocent people caught up in conflict. Lord, your will is for truth; we pray for the forces of justice...* (Corpus: 135, BNC_Written.txt at position 1042817)
- (28) *Death, of course, lays its icy **hand** on kings, as on other men...* (Corpus: 134, BNC_Written.txt at position 1310192)
- (29) *We pray for those who mourn, and for those who are sad for any reason. Lord, may each one know the gentle touch of your restoring **hand**.* (Corpus: 180, BNC_Written.txt at position 1059944)
- (30) *The Magdalen herself had dried Christ's feet with her long tangled perfumed hair; wavy hair beyond doubt of the ripest corn-yellow. Everywhere the capricious darting **hand** of Grace had lighted on the fallen, the ordinary, and they had been briefly lit up and magnified in that illumination.*(Corpus: 182, BNC_Written.txt at position 3725040) (personification du terme abstrait “Grace” ?)
- (31) *Lord, your will is that the world's resources should be shared by all men; we pray against greed and selfishness in the use of resources, and especially pray for your guiding **hand** on relief efforts along the Iraqi-Jordanian border.*(Corpus: 183, BNC_Written.txt at position 1038334)

In these examples, *hand* is conceptualized as “power” that is conferred on abstract agent as “Grace” and “Lord.” The metonymy highlights the power conferred on these abstract agents that are personified. Personification gives importance to non agent subjects that become able to “act.” The means of action here is the hand that is conceptualized as the salient part that allows the action to take place. In (27) and (29), the hand contact on “the innocent people” and “those who mourn and

those who are sad for any reason” is seen as a protective symbol. Touch is a way of saving people. In (26) and (28), touch is also significant, as it has a performative effect on the people touched: in (26) the hand contact entails people “to be infected by” betrayal and treason. In (28), the hand contact entails the passage from life to death. There is thus the idea of (positive or negative) change, or transformation through touch.

It is important to note, though, that such a metonymic link between “hand” and “power” seems to be the consequence of a more complex mapping, that is, a metaphorical mapping, in which abstract entities, such as “Lord”, “Death”, and “Grace” are personified, and thus conceptualized as “real” persons who literally have “hands”. This metaphoric mapping has thus been elaborated through the addition of details that are not metaphoric, and is the starting point for more “conceptual blends”.

2.1.2.4 *Hand as a focused stage of an act*

In the occurrences from which such a metonymic interpretation is found (21 out of 116 metonymic examples; see appendix 1), *hand* represents one of the stages or steps of an action (such as the cause, result, means, or instrument used to accomplish the action). The metonymy enables a focus on this stage. In examples (32) and (33) below, *hand* represents the means or the cause leading to the result. In the context below, the result is the style of writing that is obtained:

(32) *I can still write it fluently. We did transcription, copied out set passages in this arching, long-looped **hand**.* (Corpus: 160, BNC_Written.txt at position 3712472)

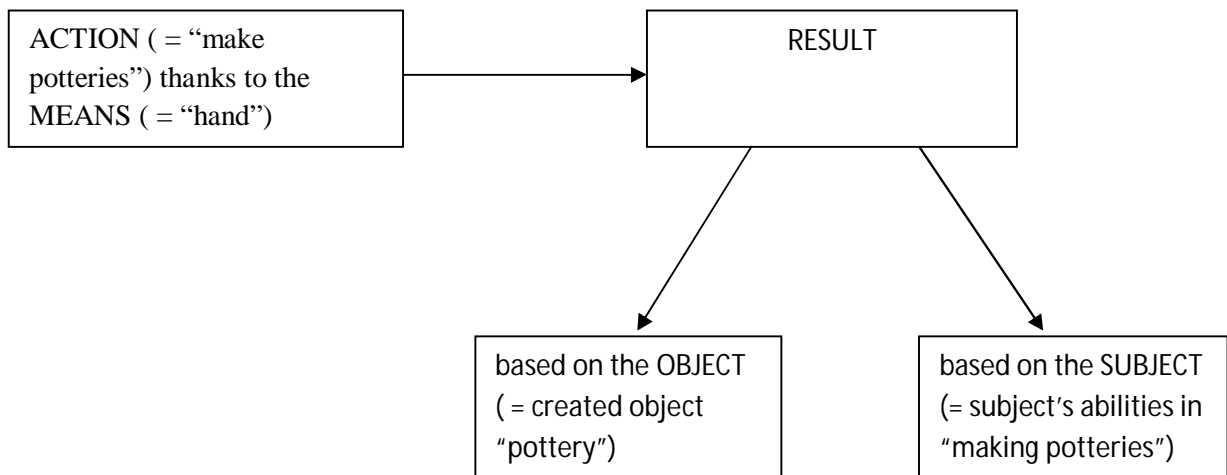
(33) *The single most difficult skill for the calligrapher to acquire is consistently good letter form in a rhythmic, written **hand**.* (Corpus: 153, BNC_Written.txt at position 1145503)

In (34), the hand still refers to the means leading to a result, but this time the result focuses more on the person to whom the hand belongs than the object itself:

(34) *At Kunstat we visit a ceramics factory, where you can try your **hand** at the potter's wheel and buy some very reasonably priced pottery from their retail outlet.* (Corpus: 144, BNC_Written.txt at position 158388)

The hand is the means that makes the action, “make pottery”, possible. The result of the action is the “creation of an object”, that is, “a work of pottery”, if our attention is based on the object, but

the result may also be the subject’s abilities to make pottery, if our attention is based on the subject. What is in focus here, is the result based on the subject, as trying his/her hand will enable him/her to test his/her abilities in making pottery. However, the subject’s ability to make pottery is also deduced from the created object. Below is a schema that summarizes the structures of the expression “try your hand”:



Let us now consider the following examples:

(35) *I decided to **hand** him a quarter whenever I saw him...* (Corpus: BNC_Written.txt at position 5874387)

(36) *Nor did the Teleuts **hand** over hostages to the Russians, despite pressure being placed on them to do so.* (Corpus: 177, BNC_Written.txt at position 3281045)

(37) *Her exhausted captain had had to **hand** over the wheel to Arthur and for eight days he was scarcely relieved. The icy seas had swept over her decks, and men had had to work night and day with axes to keep her afloat.* (Corpus: 155, BNC_Written.txt at position 2800329)

In (35), hand is a verb and the action of handing something to someone consists of giving something to someone by the means of the hands. In both (36) and (37), the hand act is a physical act. In these three examples, the target action is represented by the “giving gesture” (my term), in which the means “hand” plays a role when the passage from one former “owner” to a new one takes place, and therefore illustrates the MEANS FOR ACTION conceptual metonymy. In (35), *hand* contains more semantic features than the only body-part element (see also the same type of metonymy in the corpus-based analysis on *finger*). There is the idea of movement and action, which

is part of the giving gesture. This semantic element, which is added to that of the body-part, enables this occurrence of *hand* to be interpreted metonymically rather than literally, conferring on it a “higher” position in the semantic scale (see “semantic scale” in the first part of this dissertation). In (36), “handing over the hostages to the Russians” means delivering them to the Russians. In doing so, the Teleuts could act as direct causers if their own hands were used, that is, if they do it by themselves. They could also act as indirect causers if their own hands were not used, that is, if they order someone else to do it, for instance. In (37), “handing over the wheel to Arthur” means having him pilot the vessel(= moving the wheel with the hands). In these three examples, the hand act implies the passage of someone/something from one person to the other—from “I” to “him” in (35); from the Teleuts to the Russians in (36); from the captain to Arthur in (37). There is no metaphor here in either example (contrary to (75)), as the acts remain “physical” acts, in which the body part *hand* plays a role when the target actions are performed, and is thus part of the same domain as the target actions.

In the examples below, a similar type of metonymy on *hand* appears in idioms (5 occurrences out of 21 of this metonymic interpretation):

(38) *...he called on them constantly, smiling all the time, but never saying what he was after; with the inevitable result that the damsel got tired of her tortoise”, and gave her **hand** to a brisker suitor. (Corpus: 189, BNC_Written.txt at position 1326228)*

“Giving somebody’s hand” means “marrying somebody.” (38) illustrates the GESTURE FOR ACTION metonymy. Indeed, in Western culture, somebody is declared married when the bride and the groom have held hands and slipped the ring on each other’s finger while expressing their commitment. The action of “marrying somebody” is therefore conceptualized as the gesture of taking his/her hand to slip the ring on his/her finger. This metonymy is part of the more general PART FOR WHOLE metonymy as well, in which the whole concept of wedding is conceptualized as the part of it, this part corresponding to the moment from which the union is considered “official”.

In (39) and (40), the same metonymy as (38) is exemplified:

(39) *I must hold my **hand** up and say that their goal was down to me. (Corpus: 187, BNC_Written.txt at position 328416)*

(40) *Crabbe asks rhetorically why no-one raised a **hand** to help Grimes's workhouse slaves, but comments that all they ever said on hearing of the children's misery was -- Grimes is at his exercise". (Corpus: 156, BNC_Written.txt at position 1318108)*

In Western culture, especially in school, people's way of showing that they would like to "verbally" intervene, say something, or give their opinion when being in a group, is by holding their hand up. Furthermore, intervening naturally implies raising a hand, that is, moving from an initial rest position to a preparation phase of gesture (Mc Neill 1992). As such, the use of the expression "raise a hand" is universal instead of cultural-based, that is, motivated by basic bodily functioning instead of culture. The action of intervening "verbally" is here conceptualized metonymically as the usual cultural or universal gesture required when doing it, thus illustrating the GESTURE FOR ACTION metonymy. This latter shows that we create a mental image of a "typical/prototypical" concrete scene of somebody holding or raising his/her hand when he/she wants to intervene.

In (39), the context is, however, insufficient to know if the speaker literally makes the gesture of holding his hand up to intervene or gives his opinion verbally. The gesture of holding the hand up is the typical/prototypical gesture associated with the idea of giving an opinion and appears to be like an emblematic gesture (Beattie 2003), that is a gesture that carries meaning by itself without the corresponding words being needed (see also example (41) below).

In (40), the meaning of "raise a hand" could also be extended to "react" in the larger sense of the term and not "intervene verbally" only.

(41) only "hand" is metonymic:

(41) *What goes "I'm out! Thud!" What goes "*

*A card player throwing his **hand** in. (Corpus: BNC_Written.txt at position 5286319)*

The expression "throw in one's hand" comes from card games such as poker, and means "to retire from the game", that is, not to play (anymore). This figurative use dates from the 1920s according to the Dictionary of Idioms (Ammer 1997; retrieved from Dictionary.com:

http://dictionary.reference.com/browse/throw_in_one's_hand). First, the hand has a metonymic meaning, and stands for the cards that are held in the hand when playing. The hand still conveys a globalizing effect—see also examples (67) and (68) in the "Interaction between metonymy and metaphor" part. Furthermore, the whole expression itself could have a metonymic meaning in which the act of retiring from the card game might be conceptualized metonymically as the gesture

that is usually made to retire from the game, that is, the gesture of throwing one's cards on the table. This gesture is considered an "emblematic gesture" (Beattie 2003) or meaningful gesture that has its own meaning among the community of card players. In the context, though, it is not clear if it deals with a co-verbal gesture that would accompany the utterance "I'm out", or if it only deals with the performative act of retiring from the game by uttering "I'm out". In this latter case, the reference to "throw one's hand in" would be metonymic, since the gesture itself of throwing one's card on the table would not be performed, but stand for the act of retiring from the game.

To conclude this part, below is a summary of the semantic features that emerge from the metonymic senses of *hand* in this corpus. Hence, metonymic *hand* can be employed as:

- a noun or verb modifier, which highlights the fact that an act is done manually, or by the use of the hand, as opposed to mechanically, or by the use of machines.
- a substitute for the person it belongs to: in this case, the "whole" person is replaced by a part of him/her (his/her body part "hand"). This type of metonymy is called synecdoche. In extension to the person, *hand* can represent a person's personality.
- power in religious (deitic) context.
- a focused stage of an act: the means by which an act is accomplished, that is, by the hand, may stand for the result of this act, as in (32), (33) and (34); the means may stand for the action itself, as in (35), (36) and (37); and the gesture made to accomplish an act, that is, the gesture implying the use of the hand, may stand for the action itself, as in (38), (39), (40) and (41), in which *hand* appears in multiple-word expressions.

2.1.3 Metaphoric use

2.1.3.1 *Hand as power*

Hand represents power metaphorically in contexts such as the one below, even if few occurrences of this type are found in the corpus (3 out of 132 metaphoric examples; see appendix 1):

(42) *Guiding deputies with a firm **hand**, President Gorbachev yesterday got his way at the opening session of Congress, which duly voted against a proposal by the poet Yevgeny Yevtushenko to discuss the Communist Party's monopoly of power.*(Corpus: BNC_Written.txt at position 2458552)

In this example, the President's way of governing is viewed as a journey during which politicians in power/office are walking along a path. This illustrates the GOVERNING AS WALKING ALONG A PATH conceptual metaphor. In this metaphor, the President appears to be the "guide" that shows the "good" way to follow to the deputies, who appear as disobedient dogs. As such, the President appears as the owner of these dogs, that is, the one that needs a "firm hand" to keep the dogs following the correct path, otherwise they would stray and could pull the owner with them, if the owner does not demonstrate sufficient strength. Hence, in this metaphor, the President is conceptualized as the "super" guide, that is, as the only person who governs, and be authoritative to have situations under control.

In (43), *hand* is metaphorically the symbol of power, even if the notion of power is here connoted positively—contrary to (42). Indeed, giving protection to somebody is conceptualized as placing somebody under his/her hand, the same way as adults take care of their children:

(43) *In return the monarch undertook to protect those who had come under his high **hand**. Ostyaks (Khantys) swore in front of a bearskin on which were laid an axe, a knife and some bread. (Corpus: 135, BNC_Written.txt at position 3258872)*

The expression "under his high hand" conveys the notions of power and protection, since being powerful and protective may be derived from the effect produced from the bodily or perceptual experience of seeing parents putting their hand on their child's head or patting the head of their child to reassure or protect them, when they've done well or simply as an affectionate gesture. It reflects the CONTROL IS UP metaphor, in which power and protection are associated with physical strength and size. As such, "up" may indicate upper position from a horizontal and a vertical axis. First, "up" is perceived in an horizontal orientation that corresponds to the orientation taken from two persons fighting; in such a basic bodily experience, the stronger of the two is usually the one who is "up" or "over" the weaker. As such, stronger people are conceptualized as people in a more upright position. Furthermore, "up" is also perceived in a vertical axis, as stronger people are generally conceptualized as taller people. This vertical orientation of "up" may also apply to an army that holds the higher ground in a battle, and thus has the advantage of greater situational awareness, yielding an overall more powerful position. In such a metaphor then, power or social influence is conceptualized as physical strength, size and spatial position. Having power allows you to protect weaker people. Then, powerful people or protectors are associated with taller people, so that the taller you are the more powerful you are. This idea is highlighted here with the

word “high” placed before hand, as the bigger he is physically, the more powerful and protective he is.

The same conceptual metaphors are detected in the following example:

(44) *GUIL: ...There's a logic at work -- it's all done for you, don't worry. Enjoy it. Relax. To be taken in **hand** and led, like being a child again, even without the innocence, a child...(Corpus: 169, BNC_Written.txt at position 5485772)*

Here again, the character is “guided” by his/her “protector”, as children are guided by their parents. The hand is the means by which the protector has power. The character is not under control of his movements anymore, this idea being reinforced by the presence of the passive.

However the protective role conferred on the more “powerful” people exemplified with expressions such as the ones above, that is, “with a firm hand” and “be taken in hand”, in which there is a relation of force between the more powerful one who exerts force on the weaker one by holding his/her hand and leading him/her towards a desired direction, is replaced by “independence” from this powerful force when the powerful force is not holding the weaker one’s hand anymore, or when the weaker force is not chained anymore and thus restricted from action:

(45) *The announcement appeared a clear signal that Moscow was not prepared to extend to its 15 republics the free **hand** on domestic issues enjoyed by its Eastern European allies.(Corpus: BNC_Written.txt at position 2048909)*

In this example, “free hand” is applied in reference to the 15 republics, and implies “the power of deciding by themselves” (without Moscow).

2.1.3.2 *The “twofold” notion of hand*

In this part, we will examine a different use of *hand*, as the schematic structure of elements seems to be “twofold”. This type of metaphor with *hand* is the most utilized in the corpus (94 occurrences out of 132 metaphoric examples; see appendix 1) and is mostly found with the idiom “on the one

hand/on the other hand” (62 occurrences out of 94 examples of the same metaphoric interpretation; see appendix 1). Let us examine the following examples:

- (46) *It may be more useful to try to consider behaviour, on the one **hand**, as a response to factors within the system and, on the other, as a response to factors outside the system -- i.e., from the user's perspective. (Corpus: 172, BNC_Written.txt at position 4552902)*
- (47) *On the one hand, the unique group identity of a relatively marginal population is revitalised from within and the politics of multiculturalism are advanced. "But on the other **hand**, at the same time, the minority is likely to become more integrated into national life, because short of reaching total political independence, a high level of assimilation seems to be a prerequisite... (Corpus: 189, BNC_Written.txt at position 960513)*
- (48) *The form it takes depends, on the one **hand**, on the user's state of knowledge and the ability to identify and define the gap in that knowledge and, on the other hand, on the extent to which the user adapts to the bibliographic tools and documents available. (Corpus: 137, BNC_Written.txt at position 4572025)*
- (49) *But Gloriana herself is an extraordinary person, she's a dual personality: on the one hand the public image, crisp, incisive, brusque, dismissive and intensely regal; on the other **hand**, the private nature, vulnerable, lyrical... (Corpus: 189, BNC_Written.txt at position 1382404)*
- (50) *"Minority empowerment is in itself paradoxical. On the one **hand**, the unique group identity of a relatively marginal population is revitalised from within and the politics of multiculturalism are advanced.(Corpus: 150, BNC_Written.txt at position 960344)*

In these examples, *hand* highlights a twofold relationship inside the same element. It is the connection between this twofold relation that implies both the idea of opposition and unity. In (46), the element “behaviour” is considered twofold: first, as “a response to factors within the system” and second, as “a response to factors outside the system”. These two properties/definitions of “behaviour” are here opposite: “within” is opposed to “outside”, but at the same time form a unity, as they are part of the same element “behaviour”. In (47), the idea of opposition inside the population group is represented in the context by “but”, while the idea of “unity” is represented by “at the same time.” The adjective “paradoxical” in (50) incorporates both ideas of opposition and unity, as a paradox can be defined as “oppositions that coexist”. In (49), the twofold relationship that is part of Gloriana’s personality, is explicit with “dual” in the context. The opposition idea is exemplified by opposite adjectives and expressions such as “public image” / “private nature”, while the unity is implicitly present, since these adjectives and expressions refer to the same person’s personality. In (48), the idea of opposition is not explicit, and the reference of two additional properties, that is, “the user’s state of knowledge and the ability to define the gap in that knowledge” and “the extent to which the user adapts to the bibliographic tools and documents

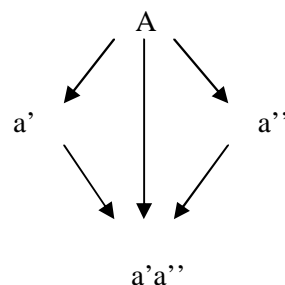
available” constitutes the idea of unity from which “the form depends.” Opposition between “acquired knowledge” and “knowledge to be learnt” from available sources (“bibliographic tools and documents”) is implicit, though.

This use of *hand* as the connector between twofold elements may be considered a metaphorical extension of the literal sense. The body is composed of three parts:

- the middle part, in which the following body parts are found: face, neck, chest
- the left side part, in which the following body parts are found: left shoulder, left arm, left hand, left fingers, left leg, left foot, left finger toes
- the right side part, in which the following body parts are found: right shoulder, right arm, right hand, right fingers, right leg, right foot, right finger toes

The body parts that are in either side part of the body represent the same twofold symmetrical elements. All the three parts of the body are linked together, so that they form a unity: the body. This twofold relationship between body parts on either side of the body, and the unity formed by the body parts that compose the body, can be connected to the twofold relationship idea based on opposition and unity found in the intrinsic meaning of connectives “on the one hand” / “on the other hand” in discourse. Hence, spatial opposition found with left and right sides of the body becomes discursive opposition with this metaphoric interpretation of the connectives.

The schematic structure represented by this metaphorical sense of *hand* is represented as follows, in which “A” corresponds to the twofold element characterized by two opposite properties (a’ and a’’) that form a unity (a’a’’):



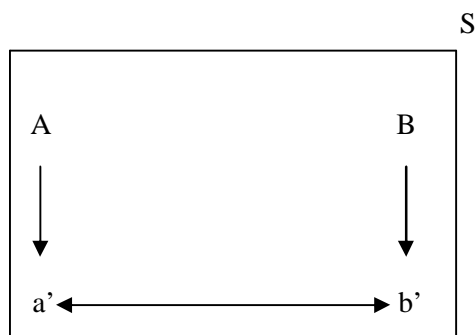
In the following examples, this same twofold relationship is retrieved:

- (51) *AD (which lies on the stable manifold of the origin) a trajectory starts, the closer to one of the points R or L it will return; R is the point where the right-hand branch of the unstable manifold of the origin first strikes the top face of B, and L is the equivalent point for the left-hand branch.*(Corpus: 159, BNC_Written.txt at position 4805080)
- (52) *The technique is easy, as you can see in the bottom right-hand corner of the picture.* (Corpus: 145, BNC_Written.txt at position 1143634)
- (53) *One does not need to draw exaggerated conclusions from the differences between the left and right hand sides of the brain in order to accept that humanists and scientists may be different kinds of people.* (Corpus: 195, BNC_Written.txt at position 4093455)
- (54) *The breakfast set in the nursery lobby left-hand cupboard was donated by Miss Henrietta Wedgwood. The provisions show familiar names, with biscuits from Huntley & Palmer and McVitie & Price and pots of Tiptree jams.* (Corpus: 178, BNC_Written.txt at position 3017175)
- (55) *Place any half or part widths to the other edges of the curtain, when making a pair so that you have a left and a right hand curtain.*(Corpus: 190, BNC_Written.txt at position 609514)

In examples (51) to (55), there is the same oppositional idea, but this time, it deals with opposition between two elements and not an opposition inside the same element, even if the two elements are meant to be the same “types” of elements having similar or symmetrical properties. Indeed, in (51) there is an implicit opposition between the “right-hand branch” and the “left-hand branch.” In (52), the reference to the “bottom right-hand corner of the picture” is used as a spatial reference point opposite to the implicit “bottom left-hand corner of the picture.” In (53), the two symmetrical sides of the brain (“left and right hand sides of the brain”) are opposed, as each represents opposite characteristics (“humanists” / “scientists”; “different kinds of people”). In (54), the reference to a “left-hand cupboard” supposes that there is also a “right-hand cupboard” in the room, even if it is not explicit. In (55), we find a twofold relationship again between similar “left hand curtain” and “right hand curtain.”

With this metaphoric use of *hand*, the opposition often deals with space, so that the expressions with *hand* are spatial references connecting two symmetrical elements (or same type of elements), that is, symmetrical elements that are placed in opposite directions in space: the two “branches” in (51), the two spatial “corners” of a picture in (52), the two “sides” of the brain in (53), the two “cupboard” in (54), and the two sides of a curtain in (55). This sense of *hand* is closer to the literal sense of *hand* as body-part, as there is here a spatial opposition of two symmetrical elements, as it is the case for body-parts in either side of the body.

The schematic structure of this metaphor on *hand* can be represented as follows in which A and B are two elements in space S that are characterized by similar or symmetrical properties a' and b' respectively:



2.1.3.3 The “haptic” metaphor

This type of metaphor is called “haptic”, since target elements are here conceptualized as elements involved in touching (35 occurrences out of 132 metaphoric elements; see appendix 1). Not only does touch imply being in contact and grasping objects, but also “acting” on objects in order to achieve a goal (see “haptic modalities” in first and last part of this dissertation). This type of metaphor mostly appears in multi-word expressions, of which *hand* is part (33 occurrences out of 35 metaphoric examples of the same type; see appendix 1). Hence, *hand* does not appear as a single word, but in a more complex phrase composed of a certain number of constituents that will form a unity, whose meaning will be proper.

Let us examine the following examples:

- (56) *To observe searching behaviour solely at the catalogue may provide a distorted picture of the task in **hand**.*
- (57) *Guildford moved two points clear in Conference B with an emphatic, expected victory over Basingstoke and still have three games in **hand**, but a late slip-up is not inconceivable. (Corpus: 192, BNC_Written.txt at position 254864)*
- (58) *...and in any case they were spared the necessity of any expenditure since the Empress Elizabeth seized their assets in 1747, just as plans were in **hand** to construct the new line. The eastern terminus was Kuznetsk. (Corpus: 145, BNC_Written.txt at position 3277202)*

(59) *There were four conductors in charge of this group with a different conductor planning, organising and leading each session. There were several students on **hand** to help with moving of the furniture etc. (Corpus: 156, BNC_Written.txt at position 3701085)*

In all these examples, the expressions “in hand” and “on hand” reflect the ATTENTION IS HOLDING IN THE HAND conceptual metaphor, in which the current object of attention to which the expression refers, is construed as something that is held in the hand. It is therefore in focus. Indeed, in (56), “the task in hand” refers to the task in question, that is, the task which is currently being dealt with; in (57), “...still have three games in hand” refers to the games that still remain to be played when making an account of the situation in the present; in (58), “plans were in hand” are plans that are under possession, and implies that a project is in preparation (in this case, the construction of the new line), and currently being dealt with; in (59), “several students on hand to help” refer to students currently present, available and ready to help.

(56) may also reflect the “EXPERIENCING IS TOUCHING” metaphor, in which dealing with something is construed as touching a concrete object. By touching an object, some internal properties of the object are revealed and sensations are felt, which allow a better knowledge of the object. As such, experiencing and dealing with an activity implies future knowledge of this latter.

(57) to (59) reveal the CONTROLLING IS HOLDING IN THE HAND conceptual metaphor as well, in which having control of a situation is conceptualized as (momentarily) possessing a concrete object and being able to decide what to do with it. In (57), Guildford is in control over “Basingstoke”, since an “emphatic” victory over Basingstoke is expected for the future games; in (58) “plans in hand” also refer to plans under possession and plans which maintain the future project under control. In (59), “students on hand” also refer to students that are on the scene on which future activities (that is, the moving of the furniture, etc.) will occur. Their presence and physical participation in the activities allows for control of the situation, to achieve these activities.

Consider now the following example:

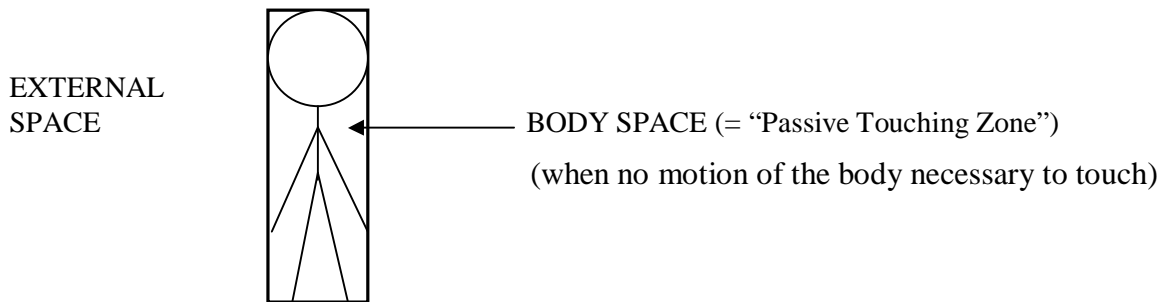
(60) *"Forgotten?" asked Joan, her tinkling laughter deepening the frown on the other girl's face. "You are so droll, Anne. Besides, what if you did forget -- you would have someone at **hand** to remind you!" (Corpus: 188, BNC_Written.txt at position 5032781)*

In this example, the expression *at hand* indicates spatial proximity or close distance and means “nearby”, “close by” or “within easy reach”. It refers to a spatial indicator in which close

distance is conceptualized as the space in which hands have access, or in which something can be touched/reached by the hand. At this point, we suggest that two types of spaces can be identified:

- the “Body Space” (my term), that is, the “immediate” space occupied by the body, or space occupied by the body at rest. This space can also be called “Passive Touching Zone” (my term), since no movement or extension of the body is required to enter in contact with physical elements found in this zone.
- the “External Space” (my term), that is, the space that surrounds the body, or space that is not occupied by the body. This space is occupied by all the physical elements that cannot be touched by the body.

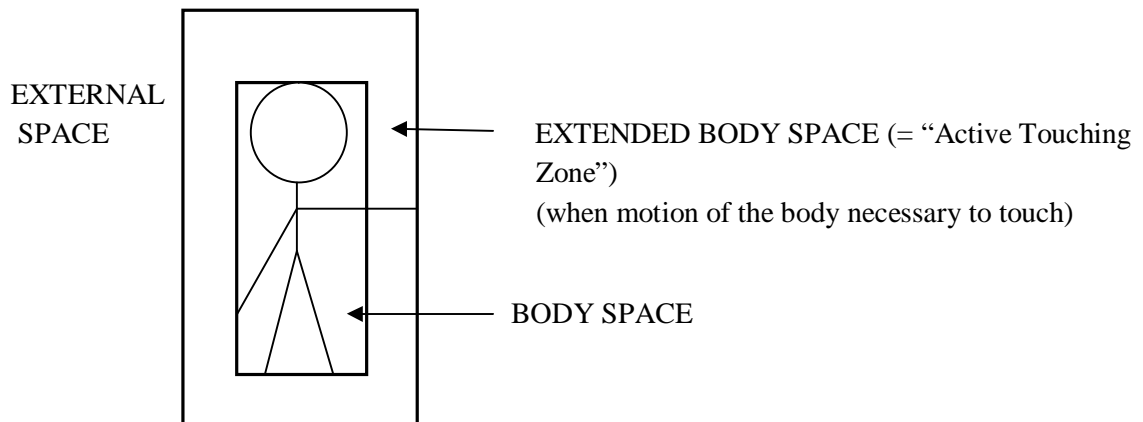
These two types of spaces are shown in the schema below:



Furthermore, the hand is the most external body-part, that is, the body-part that is the most turned to the External Space (see also the corpus-based analysis of *elbow*), when the arm is extended. Close distance or spatial proximity is conceptualized in terms of physical contact with the body in the restricted Body Space (see also the corpus-based analysis of *elbow*), or the Extended Body Space, or more generally the Body Space.

It thus reflects the CLOSE DISTANCE IS TOUCHING ZONE IN THE BODY SPACE. With the use of *hand*, physical contact implied in the source domain appears to be active, since the hand is the most adequate for active touch, contrary to the *elbow* (see the corpus-based analysis of *elbow*). Indeed, the hand appears to be active when touching, since it can manipulate and transform physical elements for instance. At this point, the author suggests that another type of space can be identified: the “Extended Body Space” (my term). This space can also be called “Active Touching Zone” (my term), since movement of the body is required to enter in contact with physical elements found outside the restricted Body Space, but close enough to the body to enable this latter to touch these elements by extending one or some of its body parts.

This type of space is shown in the schema below:



This example also reflects the **CONTROLLING IS TOUCHING** conceptual metaphor, since someone being at a close distance is someone that may help having a future situation in control, in case help is needed and action required immediately.

It is important to note that the expressions *in hand*, *on hand*, and *at hand* and the metaphors they are derived from, convey the notion of present and future. When both are conveyed, the near future aspect seems to be expressed (see the discussion about the near future aspect with *in hand*, *on hand*, *at hand* in the third part). Indeed, from (49) to (52), the **ATTENTION IS HOLDING IN THE HAND** conveys the idea of present, as shown by paraphrases, such as “currently” or “in the present”. The **CONTROLLING IS TOUCHING** conceptual metaphor conveys the idea that the situation in the present is under control, so that a future activity deriving from the present situation has good probability to be performed, and to be in line with the expectations.

The present may itself be considered as “time under control”. Events that are achieved in the present are events that exist and are part of reality. This latter is conceptualized as a concrete world, in which things can be touched. By being touched, things that surround us are under control. It allows a syllogistic reasoning in which touching (an object) is perceived as controlling (it), the present is perceived as the touching world, so that the present is perceived as the controlling world as well. By invoking the **TIME AS A JOURNEY** conceptual metaphor, the concept of “near

future” is construed as being literally close to the present, so that it represents a time “almost under control”.

Let us now analyze the following example:

(61) *To transfer the first 5,626 papers that came to **hand** would mean ignoring the 8,907 other papers on which Paisley was placed first, and the system reasonably requires that the second preferences expressed on those papers should also be taken into account. (Corpus: 193, BNC_Written.txt at position 3058336)*

Here again, *hand* conveys the notion of the present, and is reminiscent of the expression *in hand*, in which the object referred to by the expression is the current object of attention or the object that is currently being dealt with (see the ATTENTION IS HOLDING IN THE HAND conceptual metaphor with *in hand* above). The object of attention is conceptualized as an object that is held in the hand, and has thus the passive role of just being identified as an existing object or an object that is part of reality. By being associated with *came to*, though, a dynamic process is identified. Indeed, the PATH schema is activated with *come to*, which conveys the notion of a passage or change, here the passage or change from the past to the present, or from the non-existing position to the existing one. This example therefore also reflects the DISCOVERING IS COMING TO HAND conceptual metaphor, which results in KNOWING IS TOUCHING, in which the target object that was not under attention, and thus unknown, is revealed and becomes an object under attention, and thus known. The expression *come to hand* therefore expresses the passage from ignorance to knowledge.

(62) *...provided Mozart with a vehicle for his overwhelming genius, not least in those two miraculous finales, to Acts Two and Four, where formality of design goes **hand** in hand with the dramatic unfolding of the story, inspiring the composer to create some of his most complex structures.(Corpus: 156, BNC_Written.txt at position 1295682)*

In (62), “hand in hand” means “together” and conveys the image of two persons “hand in hand”. This notion of unity illustrates the COOPERATION HOLDING HANDS metaphor, in which the literal image of two persons “hand in hand” is assimilated to the abstract concept of “style” in a musical work. The mental image of a concrete scene of “persons hand in hand”, is associated with feelings of love or friendship, as the hand in hand gesture displays closeness, proximity and unity in Western culture. There are typical gestures reflecting feelings such as the “hand in hand” gesture.

The expression “hand in hand” indicates that the “formality of design” and the “dramatic folding of the story” are indissociable from each other, and are both part of the structure of the work.

In (63), the same idea of “unity” is expressed with the idiom “hand in glove:”

(63) *The Mayor and his friends were themselves the criminals, **hand** in glove with the smugglers whose leader Jake was clearly an old ally. (Corpus: 172, BNC_Written.txt at position 5005209)*

Here again, the mental image of a concrete scene helps understand the figurative meaning of “hand in glove.” The close fit of a glove shares many of the same contours of the hand, so that both seem indissociable from each other. With a type of glove, such as the “oven glove”, the fingers are also usually indissociable from one another. Furthermore, the glove allows the hand to be warmed and protected, which is connoted positively, as well as the idea of unity. This mental image of a source domain representing the close contact between the hand and the glove is projected onto an abstract domain dealing with “relationships”.

Both domains are mapped in this example, which illustrates a conceptual metaphor such as COLLABORATION IS PHYSICAL BOND, this latter encompassing the same idea as reflected in (62).

(64) *Our destiny is in our **hand** and we must make a move Black people situation must improve (Corpus: 158, BNC_Written.txt at position 5346257)*

(65) *It had long been believed that he who held the Tower, held London in the palm of his **hand**. (Corpus: 191, BNC_Written.txt at position 5098874)*

(66) *The increase in the dependency ratio has created a demographic time bomb, with the dependency ratio getting out of **hand** through the difficulty of a smaller tax base supporting a larger welfare burden. (Corpus: 188, BNC_Written.txt at position 3766495)*

(64) and (65) both reveal the “CONTROLLING IS TOUCHING” or “CONTROLLING IS HOLDING SOMETHING IN THE HAND” metaphor. In (64), the control over “destiny” depends on the agent “we” and having control of something is conceptualized as putting it in the hand. In (65), having control over “London” is conceptualized as holding London in the hand. The idea of control is reinforced in (65) with “in the palm of” which indicates an absolute control. Indeed, a

mental image of a concrete scene as an object held “in the palm of the hand” suggests that this object is stable in the hand and will therefore not fall. Something that is in your hand also means that the object belongs to you, so that you decide what to do with it.

Another conceptual metaphor can be found in these two examples: the “HAND AS A CONTAINER” metaphor. The hand is then “metaphorized” as a container inside which the object is enclosed. This mental image implies that the object cannot escape from the container, which has physical boundaries preventing it from moving out of the container. Of course, this is a global interpretation of this metaphor, since a lot of situations could be applied to it, according to the properties of the container (the dimensions of the container allowing more or less motion space to the object, the fact that the container is closed or open allowing the object the possibility to move out or not, etc.). Hence, the object will be given more or less control or power according to these properties. In any case, the object inside a container indicates that the object cannot move freely and motion will be limited to the physical boundaries of the container. On that account, something in the hand is conceptualized as something that depends on us (on “our hand”).

On the one hand, as touch implies knowledge and control in the conceptual metaphor CONTROLLING IS TOUCHING, something over which there is no control is something with which we have no hand contact (“out of hand”), as exemplified in (66). On the other hand, if referring to *Morris Dictionary of Word and Phrase Origins* (Morris 1988: 433), *hand* in the expression “out of hand” could carry a metonymic meaning with the MEANS FOR EFFECT metonymy, as it may first have been used in the horses race context in which failure to keep a firm grip on the reins would result in a team of horses being “out of hand,” that is, being “out of control.” Control, which represents the effect of the action “holding a firm grip”, can be achieved by the means of the hands, which then represent the means leading to the result “control.” However, the metonymic interpretation would be valid in a horse-race context, while it deals with the context of economics in this case. The metonymy could thus be mapped metaphorically onto another domain, in which the domain of horse race would be mapped metaphorically onto the domain of economics. However, the metonymic mapping is not obvious in this example, and the “metaphor-only” interpretation is thus preferred.

2.1.4 Interaction between metonymy and metaphor

Interaction between metaphor and metonymy is found in a few examples in the corpus (26 occurrences out of 272 conceptual entries; see appendix 1) and appears in multi-word expressions mostly.

2.1.4.1 *Metaphor from metonymy*

This type of interaction will be considered “metaphor based on metonymy” (my term), in which the metonymy is identified in the source domain of the metaphoric mapping. This is the most current type of interaction found in the corpus (21 occurrences out of 26 mixed cases; see appendix 1).

Let us consider the following example:

(67) *"That was his biggest blunder, Mr Goldman said. "He badly overplayed his **hand**. Department of Justice officials made it clear that they still see the pursuit of Gen Noriega as a criminal case.(Corpus: 190, BNC_Written.txt at position 2642703)*

The original expression “overplay one’s hand” is first employed in the context of poker, in which the hand stands for the cards the player holds in his/her hands. It thus has a metonymic meaning in which the hand conveys a “globalizing” effect: indeed the hand stands for ALL the cards and ALL the cards together need to be taken into account when assessing the player’s chance of success in the game. In example (67), the original expression “overplay one’s hand” from the domain of playing poker is used metaphorically on the domain of criminality, in which the criminal’s optimism about his criminal action is conceptualized as that of the poker player’s when the latter thinks that his cards are better than they really are. This characteristic of the player is projected onto the criminal who has acted more confidently than he should have because he certainly believes that he is in a stronger position than he/she actually is. The context is then needed to know exactly about the criminal’s action, as the feature that is in focus in both domains seems to be the character (criminal/player)’s incorrect attitudes when acting. Indeed, in poker, when a player overplays his hand, he generally throws away money on this account. The criminal might have paid someone to kill somebody or killed somebody himself while thinking he would never be accused.

It thus appears that the original expression “overplay one’s hand”, which has a metonymic meaning, is then mapped metaphorically onto another domain, here the domain of criminality.

(68) *Braintree 5 Andover 0*

*Braintree provided five more good reasons to justify their claim of being the most attack-minded team in the whole league. Another nap **hand** at the expense of Andover took Iron's league tally for the season to 82, a figure that cannot be bettered in any of the three divisions of the Beazer League. (Corpus: 161, BNC_Written.txt at position 356340)*

The expression “nap hand” is utilized for a position in which there is a very good chance of success if a risk is taken. This originates from the card game called “napoleon” in which a nap hand is a call announcing an undertaking to win all five tricks. The hand stands for the cards you hold in your hand—see also example (41). This example reflects, then, a metonymy in which the means stands for the object (the cards are held by the means of the hand). By using *hand* instead of cards, there is a “globalizing” effect, in which the cards are viewed as an “ensemble,” the “ensemble” of cards being the one leading to the success. The value of the cards is estimated in their global nature (the value formed by ALL the cards at once, and not as the value of EACH card put together). This “globalizing” effect is encompassed in the metonymy with *hand* that is used to refer to ALL the cards at once, that is, the cards that are ALL held in the hand. The metonymy has then a semantic effect, as the mental image of the metonymic *hand* enables an understanding of the object as referring to “ALL the cards” and not “EACH card.”

Furthermore, the football game is conceptualized as a card game, so that it exemplifies the “PLAYING FOOTBALL IS PLAYING CARDS” conceptual metaphor in which some features of the target domain “football” are viewed as some features depicted in the source domain nap card game. These common features are explicit in the context:

- the result: 5 points have been won in the football game (the same 5 points needed to win in nap hand)
- it also implied that risk has been taken and proved necessary for the victory, as it is the case in nap hand in which a call to win all five tricks has to be undertaken, so that victory takes place.

The metaphor enables these “hidden” features or semantic properties to be (implicitly) “revealed” to the reader/hearer. Thus, intrinsic semantic information needs to be distinguished from semantic information on surface, that is, information brought by the “signified” of words in context.

In example (68), the original expression “nap hand” from the domain of playing cards or nap game, which has a metonymic meaning, is then mapped metaphorically onto another domain, here the domain of playing football.

Let us now consider other examples:

(69) *It was 50 years from the first signs of the rundown of the British Empire to our going cap-in- **hand** to the International Monetary Fund for financial support. (Corpus: 142, BNC_Written.txt at position 1815876)*

The expression has first a metonymic meaning. Indeed, in European culture, somebody begging for money, especially in the street, is typically mentally represented as a concrete scene of somebody extending his/her arm while holding a cap in his/her hand for money to be put into it. The action of begging for money in the street is conceptualized as the gesture usually made when doing it. This example illustrates the GESTURE FOR ACTION metonymy. In the context of (70) however, it deals with the British Empire asking for money from the International Monetary Fund. There is therefore a conceptual metaphor as well, in which asking for money from the International Monetary Fund is conceptualized as begging for money in the street. The metaphor is meaningful, as it shows that the action of asking money is connoted negatively, since begging for money in the street is seen as a degrading act that puts light on the notion of failure in life. Hence, the use of the metaphor shows the speaker’s state of mind, and the fact that he sees the action of asking the IMF for money negatively. It may also show how critical the financial situation of the British Empire is, as they have been reduced to “begging”, that is, to the last possible action they could do. This implies that they have almost lost control over the financial situation of the British Empire.

In example (69), the original expression “to go cap in hand” from the domain of begging, which has a metonymic meaning, is then mapped metaphorically onto another domain, here the domain of asking for money from the Monetary Fund.

The same type of interaction between metonymy and metaphor is found in the following examples:

(70) *Sotheby's plunge TOP people's auction house, Sotheby's is losing money **hand** over fist. (Corpus: 189, BNC_Written.txt at position 1404523)*

“Hand over fist” refers to a physical gesture in its literal meaning. Below is the possible origin of the expression retrieved from The Oxford Dictionary of Idioms (Siefiring 2005):

The phrase first appeared in the mid 18th century as “hand over hand.” Found in nautical contexts, it referred to the movement of a person’s hands when rapidly climbing a rope or hauling it in. By the mid 19th century, “hand over hand” was being used to mean ‘advancing continuously and rapidly’, especially of one ship pursuing another. “Hand over fist is first recorded in the early 19th century, also in a nautical context, but it was soon used more generally to indicate speed especially in the handling of money.

The original expression “hand over fist” corresponds to the gesture made when rapidly climbing a rope in a nautical context. It originally represents the typical/prototypical gesture associated with the action of rapidly climbing a rope. This gesture is thus associated with any action that consists of “advancing continuously and rapidly” in a nautical context. The associated meaning of the gesture is therefore extended, so that the manner of the original expression is kept and is in focus, that is, the notion of “rapidity”. Hence, the expression “hand over fist” reveals first the “MANNER FOR EFFECT” conceptual metonymy. In this context however, it does not refer to the nautical domain, but the domain of handling money. The expression in (70) therefore also illustrates a conceptual metaphor, in which the domain of money is conceptualized as the nautical domain. The metaphor makes it clear that the manner the action is dealt with in both the source and target domains is shared, so that the hearer/reader understands that “Sotheby’s is losing money in a continuous and rapid manner.”

Let us now have a look at example (71) below:

(71) *It was rejected out of **hand** by President Bush, who also refused to include the US Navy in conventional arms control agreements. (Corpus: 136, BNC_Written.txt at position 2191175)*

“Out of hand” means here “without any thought”, so that the decision is immediate, or immediately taken by President Bush.” As such, out of hand means the same as “off-hand”, the meaning of which dates back to the 1690s (Etymology Online). To explain the connection between this sense and the occurrence “out of hand”, it seems to be necessary to examine the possible origins of the expression.

On the one hand, it seems that the domain of hunting or activities involved in shooting might explain the connection between the two (Etymology Online). Shooting without a rest or support is also called “offhand shooting”, which consists of shooting from a standing position without a rest, that is, without any device that helps reduce your body movements, thus allowing you to be still, hold on your target, and aim more accurately. Using a rest is only possible if you have time to take the shot. It cannot be utilized in offhand shooting, since standing position is required and is usually adopted when you have only a few seconds to take the shot, so that shooting is fast and immediate.

As the rifle is held with one or both hands when shooting “offhand”, the use of the affix “off” to *hand* is questioned. Indeed, “off” or “out of” is supposed to negate the contact between the object and *hand*, while there is contact between the object “rifle” and the hand(s). It appears that the contact seems to be negated with “rest” instead of “rifle”, and this would explain why the affix “off” to *hand* is present. Consequently, “off-hand” or “out of hand” displays the way by which the hand(s) are used (or “not used” in this case) when shooting this way, that is, without being supported by, and thus without being in contact with any device.

This first seems to reflect the MANNER FOR EFFECT conceptual metonymy, in which the manner by which the hands are used (unsupported) is mapped onto the effect of this “out of hand” manner, that is, “immediacy of shooting”.

On the other hand, as it does not deal with the domain of hunting in this context, this example also reveals a conceptual metaphor, in which the domain of political action is conceptualized as the domain of hunting. The use of the expression is not limited to the domain of political action though, and could touch on any other target domain in today language. This could show that the expression “out of hand”, which refers to the manner the hand(s) was (were) used in the domain of hunting, was first associated with the action of shooting, but was then extended to any action that has the same effect, that is, to any action whose effect is “immediate”.

Regarding metonymy, what is interesting to note is that the target objects in (67) and (68), target action in (69), target manner in (70), and target effect in (71) are conceptualized as prototypical gestures of other source actions (the gesture of holding a cap in his/her hand for the source action “begging in the street” for instance). Prototypical source gestures obviously do not correspond to target gestures. Indeed, the target action of “asking for money from the International Monetary Fund in (69) does not imply making the gesture of holding a cap in his/her hand. It is a mental image in which one target action is viewed as another source action, whose source gesture is put in

focus. That is why, examples (69) to (71) illustrate conceptual metaphors as well, in which one target domain is viewed as another one, even if these domains may be semantically close to each other. In (69), the domain of “asking for aid” is conceptualized as the domain of “begging.” Both domains have the feature ASKING FOR MONEY in common, but the means of obtaining it is quite different. In (70), the domain of “MONEY” is conceptualized as the domain of NAUTICS in which the common idea of CONTINUITY AND RAPIDITY is expressed, even if the actions in which this idea is found, are different in both domains (source action of climbing a rope and target action of losing money).

Conversely, in (38), the source gesture (“give her/his hand”) corresponds to the gesture displayed in the target action (“to marry someone”). No metaphoric link is present and only one domain is found. It is then necessary to distinguish example (38), in which there is only a metonymic link, from examples (69) to (71), in which there are both metonymic and metaphoric links, and in which the metaphor cannot be understood without the former metonymic link.

2.1.4.2 Notion of “passage” with “metaphor from metonymy”

Let us analyse example (72) below, in which *hand* is employed in the sense of “aid:”

(72) *Since 1980, the UK staff have shared a massive £250m in profit sharing **hand**-outs and this year the figure should be around £50m. (Corpus: 178, BNC_Written.txt at position 1415633)*

In (72), “hands-outs” refers to the share or money received by the UK staff. The use of *hand* shows that the sharing of money is viewed as the action of giving something from hand to hand, as the mental image of giving, sharing or distributing money is best represented by a gesture showing the passage of money from one person’s hand to the other’s. The typical/prototypical “giving gesture” may be described as follows: the “giver” extends his/her arm to the “taker” with money held in his/her hand; the “taker” extends his/her arm to the giver’s hand, takes the money (= physical contact between the taker’s hand and the money) that he/she will finally hold in his/her hand). Furthermore, “out” suggests the idea of movement that goes along with the idea of the passage from one person’s hand to the other, that is, from a former owner to a new one.

The giving gesture seems to be composed of three stages as follows:

The “giver” ’s preparation to the action (Cause/Pre-action) → action of “giving” and “receiving” → result of the “giving action” (= change of owner)

First, this example illustrates the MEANS FOR OBJECT metonymy, in which an object is conceptualized as the means *hand* thanks to which the passage of the object from a former owner to a new one can take place. However, “hand-outs” do not refer to objects distributed “from hand to hand” but to shares received by the staff from employers. The use of “hand-outs” then reveals a conceptual metaphor, in which distributing a share to someone is conceptualized as giving something to someone from hand to hand. Language users may have the giving gesture in mind when conceptualizing or mentally simulating the act of “sharing hand-outs.”

The same analysis as (72) can be made for the following example:

(73) *British companies seeking new markets get a helping **hand** today for any projects they fancy setting up in Russia.*(Corpus: 136, BNC_Written.txt at position 1459957)

“Hand” could here refer to a person metonymically, but it is more probably used for another type of help, such as “money” or “investment”. It would thus represent the MEANS FOR OBJECT conceptual metonymy, in which the passing on of the object can be done thanks to the means *hand*. However, as in the previous example, example (73) also reflects a conceptual metaphor, in which giving money or making investments for a project to be set up, is conceptualized as giving a concrete object to someone or passing on a concrete object from one hand to the other.

In (74), the expression “to hand over to someone” refers to an “abstract act” that can be paraphrased by “yield power to somebody:”

(74) *HMS Reading's senior officer, now more than middle- aged, had been put out of action by the rigours of the journey from Liverpool to America, and had had to **hand** over to Arthur when about two days out of St John's heading for Iceland.*(Corpus: 157, BNC_Written.txt at position 2808028)

Here again, the target action is represented by the “giving gesture” and reflects the MEANS FOR ACTION conceptual metonymy. However, the target action of handing over to someone is not a “physical” act—contrary to examples (36) and (37) in the “Metonymy” part in 2.1.2), and it does not refer to the passage of a concrete object from one hand to the other, but the passage of “power”

from one person to the other. This example thus illustrates a conceptual metaphor, in which yielding power to someone is conceptualized as giving someone a concrete object from hand to hand.

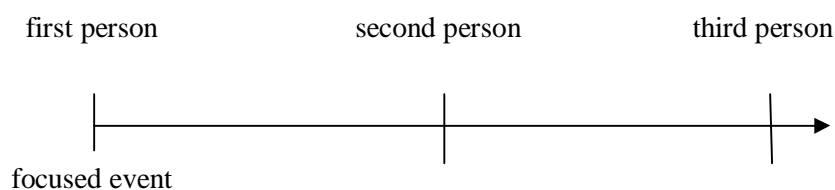
Let us now examine the following examples, in which hand is a grammatical modifier (adjective or adverb):

(75) *An Amnesty International report, published in February, documented torture of Tibetan men as well as women. More first-hand accounts which have reached the Tibet Information Network in London have not been translated for lack of funds.*(Corpus: 186, BNC_Written.txt at position 2012910)

(76) *First-hand reporting is a critical duty. It was not just economic weakness that led to the collapse of communism in Eastern Europe. It was also the availability of free information on radio and television, in particular.* (Corpus: 187, BNC_Written.txt at position 1254156)

(77) *They might well have had experience at second hand of Russian trade goods, and thus have resolved to pay tribute to obtain these benefits. And on occasion some groups would choose to submit themselves to the Russians as the lesser of two evils...*(Corpus: 172, BNC_Written.txt at position 3256840)

In examples (75) and (76), “first hand” means “based on personal experience”. Then, the “accounts” and “reporting” are told by the person who has experienced them. In example (77), “second hand” means “based on someone’s else experience.” Then, Russian trade goods have been experienced by an agent B other than the agent A “they”, but A may have seen B experiencing Russian trade goods or B may have told A about Russian trade goods. In either type of perception (sight or hearing), A has not directly/personally experienced Russian trade goods, while B has personally experienced them. *Hand* stands for a person and is therefore used metonymically. Cardinal numbers “first”, “second”, “third”, and so on, would correspond to the degree of “contact” with the focused event, that is, the event that has been reported or experienced. To show the different degrees of contact with the focused event, a scale could be created, in which the person’s position according to the focused event would show the degree of contact he/she has with it. The nearer the person is, the more he /she has contact with the event, as in the scale below:



A first person report would be a report about an event that has been experienced by the person that reports it. This person is thus the person the most exposed to the event, or the first one touched on by it. This person will be the “nearest” person that is in contact with the event (see scale above). A second-person report would be a report about an event experienced by a person (the first one in contact with the event) but reported by another person (the second one in contact with the event) that has been in contact with the first one. The contact between the first and second person may vary according to the context: the second one might have seen the event experienced by the first one, or the first one might have told the second person about his/her experience. A third-hand report would then be a report about an event experienced by a first person, but reported by a third one (the third one in contact with the event).

Hence, the idea of the passage is still present here. The target domains therefore deal with “abstract” objects, as the experience about an event passing on from somebody to the other is conceptualized as the passing down of an object from hand to hand. The use of *hand* is thus also a metaphorical trace of the idea of the passage and has the symbolic meaning of “passing on” events.

In the examples below, the same metonymy and metaphor are expressed, even if the target is now different and deals with “concrete” objects, such as “garments” or “goods”:

(78) *Their clothes were dirty and their hair unwashed. After Forest had taken over, all their fine apparel had been removed and replaced with ill-fitting second-hand garments. They had no change of clothing and those they wore were never washed. (Corpus: 182, BNC_Written.txt at position 5212290)*

(79) *Meanwhile, East Germany banned the export of antiques and second-hand goods, in an attempt to counter rising currency speculation. (Corpus: 130, BNC_Written.txt at position 2098760)*

The expression “second-hand” here means “used,” in the sense that “garments” and “goods” are not new and have already been worn or utilized by somebody else before (touched by someone else’s hands). The owner of “garments” and “goods” has changed, so that they belong to a second owner

with “second-hand.” This “passage” of the garments and goods from one ownership to the other is conceptualized as the passage of an object from hand to hand.

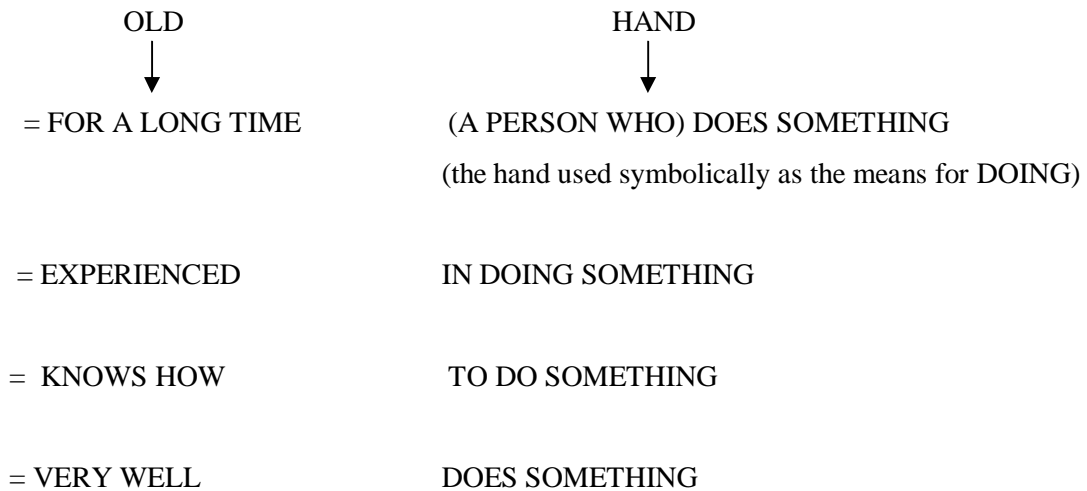
2.1.1.2. *Metaphor within metonymy*

In this type of interaction, both metaphor and metonymy are retrieved from the target domain.

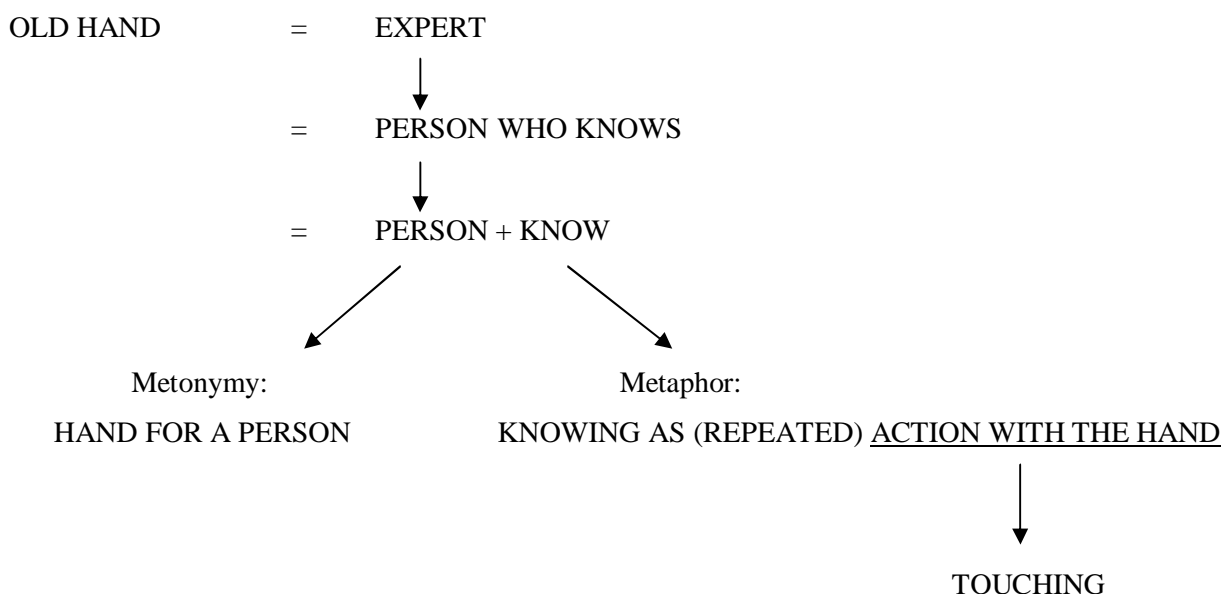
There is only one occurrence of this type in the corpus:

(80) *As an "old China **hand**, Mr Bush apparently prides himself on his personal understanding in dealing with the Chinese; and as a former CIA director, he is not averse to secrecy.(Corpus: 178, BNC_Written.txt at position 2513886)*

An “old hand” is an expression that means “expert” (“a person that is an expert in...”). First, the *hand* stands for a person and is thus a metonymy. In the expression, the salient feature *hand* is seen symbolically as a means for dealing with something. Consequently, the symbolical idea encompassed in the metonymy is that a person that deals with something, or does a particular job or activity, uses his/her hand. In this context, Bush as a “China hand” would suggest that Bush is dealing with China in some way, which is explicit in the context (“in dealing with the Chinese”). Second, the adjective “old” associated with “hand” shows that the person, who is dealing with a particular activity, has been dealing with it for a long time, and has thus acquired experience in dealing with it. Indeed, an “old hand” is an expert, that is, a person, who is experienced in doing something, a person who knows perfectly how to do something, or a person who can do something very well. Below are some expressions semantically corresponding to both terms:



Another conceptual metaphorical link is then created here, thanks to the association of both terms that forms the expression: the KNOWING AS ACTION WITH THE HAND conceptual metaphor which is reminiscent of the KNOWING IS TOUCHING or EXPERIENCING IS TOUCHING conceptual metaphor. It also represents the EXPERIENCING IS AGING metaphor. Both metonymic and metaphorical links are created in this example. The metonymic one cannot be fully understood without the metaphorical one and vice versa. In this example, it is difficult to find the type of interaction between metonymy and metaphor, as both participate in the elaboration of sense of the expression. However, as an “old hand” is a person before all, the expression is considered metonymic with a metaphor inside it. To summarize, below is the schematic semantic structures corresponding to example (80):



2.1.4.3 Demetonymisation

Consider the following example:

(81) *This was Miss Bothway's first winner between the flags for two years. The former area champion was travelling abroad in 1992, but kept her **hand** in by riding a winner on the flat in the United States during August for Mr. Sheppard 's brother, Jonathan.* (Corpus: 162, BNC_Written.txt at position 391277)

This use of *hand* is reminiscent of the metonymic one in “try your hand”, in which the hand refers to the means leading to a result, the term *hand* focusing more on the person the hand belongs to than the resultant object itself. The hand is the means that makes the action of riding possible. The result of the action is the completion of the action, as represented by the object “winner”, which implies the action has been successfully performed to its terms, if attention is focused on the object. The result may also deal with the subject’s abilities to ride, if attention is focused on the subject. The result based on the subject is to prevail in this case as well, since the subject is topicalized; her ability to ride is deduced from the result of the ride—that is, the result of winning the ride.

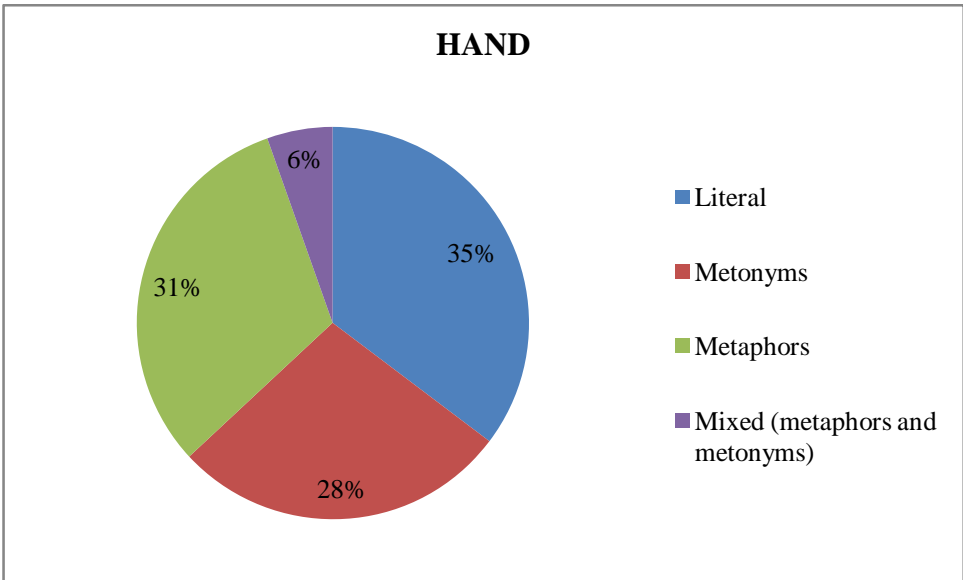
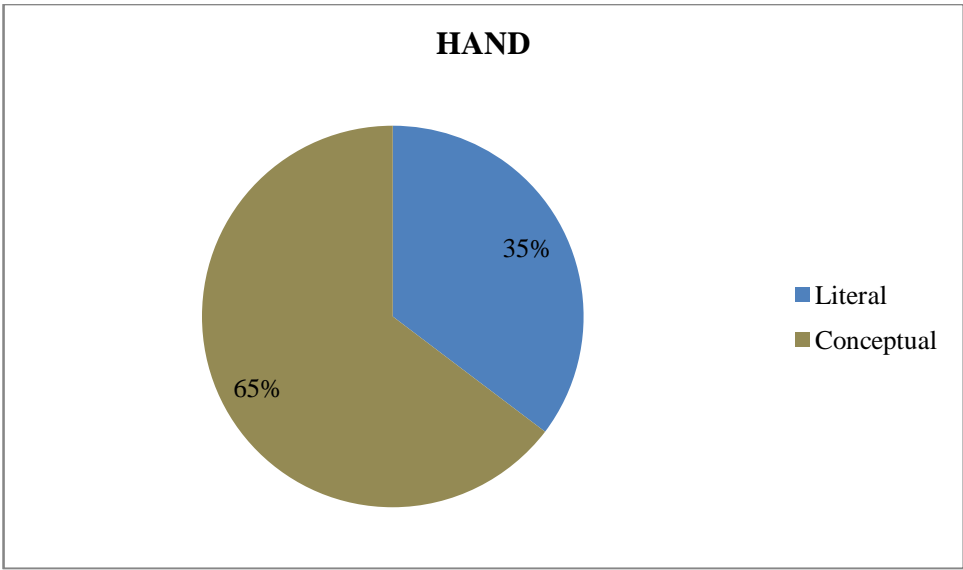
Such a metonymic interpretation, even if valid, seems to be downplayed by a larger metaphoric one, due to the association of *hand* with the following adverb “in” in the expression *keep one’s hand in*, and allows to identify the HAVING ABILITIES IN SOMETHING IS HAVING A HAND IN A CONTAINER conceptual metaphor. As such, the expression is “demetonymized”. The same source is employed with other metaphors in which the target expresses the idea of getting or being involved in an activity, such as the expression “have a hand” in the following example retrieved from the corpus:

(82) *...been a broad comparison of two fairly " complete" catalogue systems which are also internally quite similar (the present writer had a **hand** in the design of both of them) with the same users in the same library.* (Corpus: BNC_Written.txt at position 4606740)

The expression “have a hand in something” is also demetonymized, since the association between *hand* and *in* makes this former be part of a larger metaphorical context.

2.1.5 Table of results: written BNC Corpus on Hand

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	150	150	0	0	0	0	0	
Metonyms	116	49	13	34	17	3	0	0
Metaphors	132	3	0	0	0	97	0	32
Mixed	26							
Metaphors from metonyms	21	0	0	0	0	10	1	11
Metaphors within metonyms	1	0	0	0	0	1	0	0
Others	4							
Total	424	202	13	34	17	115	1	43



2.2 Finger (Finger-)

2.2.1 Literal meaning

Prototypical meaning of *finger* refers to the body-part, that is, to one of the four thin parts of the hand (not including the thumb). In the corpus, *finger* is mostly employed in its literal and prototypical meaning, since 62 occurrences of *finger* out of 82 examples (see appendix 2) appear to refer to the body part, as in the following example:

- (1) *Ros approaches him brightly, holding a coin between **finger** and thumb. (Corpus: 187, BNC_Written.txt at position 5505689)*

It is also found as the second component in compound. In this case, the first element is used as a modifying element that brings information on *finger*:

- (2) *...changing expressions, seeing the steadiness of her gaze as she gave thought to the revelation and its implications, the high smooth brow and long-**fingered** white hands. (Corpus: 147, BNC_Written.txt at position 5085517)*

In (2), *finger* is an adjective in a compound and the first element of the compound “long” gives some information on how *fingers* are shaped. The form –ED on the second element *finger* indicates that it is employed as a modifying element of the noun “hands”, and thus gives details or some information on the part of the hand, which is the focused element in the sentence. *Finger* as second element in a compound only appears once in the corpus.

In the example below, *give the finger* represent an emblematic obscene gesture, made when defying someone:

- (3) *And every day more crazies who debate
With phantom enemies on the street.
I did see one with bright belligerent eye*

*Gaze from a doorstep at the sky
And give the **finger**, with both hands, to God:
But understand, he was not odd
(Corpus: 166, BNC_Written.txt at position 5861803)*

The possible origins of this gesture date back from the Ancient Greece as a phallic symbol. The middle finger was also referred to as the “digitus impudicus” (impudent finger) and “digitus infamus” (“infamous finger”) in Ancient Roman writings.

In this example, *finger* appears in a compound as the head:

(4) *Features planned include a gardening world where you can discover just how green **fingered** you are.*
(Corpus: 146, BNC_Written.txt at position 50035)

Green fingered forms an expression; it refers to a person that has the ability to make plants grow. This ability is conceptualized metaphorically as having green fingers. However, only the term *green* has a metaphorical interpretation. The colour of the subject’s finger assimilates itself to the colour of the plant, as if the subject became a plant himself. *Green* represents the source of the mapping, while *finger* has a literal interpretation in this larger metaphorical context. There is focus on the finger and not the person as a whole, since this is the body part that is used to take care of plants.

2.2.2 Metonymic use

2.2.2.1 *Finger as a characteristic of a category*

2.1.1.2.1. A twofold opposition in a category

Finger is a modifier in a compound, as in:

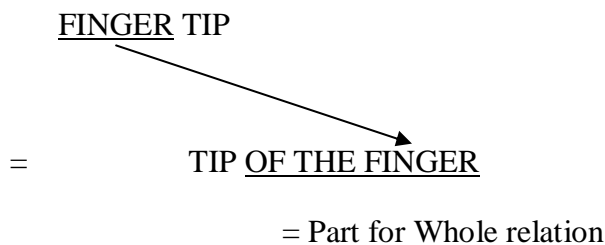
(5) *Another curious scientific phenomenon is the fact that the **finger**nails grow after death, as does the beard.*
(Corpus: 183, BNC_Written.txt at position 5459468)

In all these examples, *hand* focuses on one salient property of the category denoted by the head, *nail*, that distinguishes this latter from another member of the same category, that is, from *toenail*.

2.1.1.2.2. A multiple opposition in a category

- (6) *I could tell mum was leaning forward, trying to get me to meet her eyes, but I just frowned, and with my moistened **finger**-tip cleared my plate.* (Corpus: 146, BNC_Written.txt at position 5771489)

Finger is a modifier, and focuses on the salient property of the category denoted by the head that distinguishes this latter from other elements of the same category, that is, tips of other types of objects. The semantic features of *finger* in *finger-tip* are represented in the schema below:



It reflects the general PART FOR WHOLE metonymy. The subcategory is part of the larger basic *tip* category, and, more specifically, SALIENT PROPERTY FOR A BUNDLE OF PROPERTIES metonymy (Otal & Navarro I Ferrando 2005: 19).

In the example below, *finger* is the modifier of the head *print*, with which it shares exocentric¹¹ type of relation.

- (7) *It is sometimes claimed that stylometry enables the scholar to identify the **finger**print of an author, a stylistic criterion, or set of criteria, which can be used to determine with certainty questions of disputed authorship.* (Corpus: 140, BNC_Written.txt at position 4080070)

Thus, the head *print* is itself metonymic and designate markings that are generally the results of the action of printing. *Finger* represents a salient feature of the category *print*, which creates a subcategory, *fingerprint*. It reflects the general PART FOR WHOLE metonymy, since a

¹¹ This term has been introduced by Bloomsfield (1993) and designates a type of relations between the modifier and the head in a compound. These latter share endocentric types of relations, when the basic meaning of the compound may be deduced from the meaning of one of its two elements, generally the head. When such a meaning is not deduced from the meaning of one of its elements, the type of relation between the modifier and the head is exocentric.

subcategory is part of a larger basic one, more specifically, SALIENT PROPERTY FOR A BUNDLE OF PROPERTIES metonymy (Otal & Navarro I Ferrando 2005: 19). In this context, these metonymies are part of a larger metaphor, in which the personal style or way of writing of an author is metaphorically conceptualized as his “fingerprints”. These latter are personal indelible markings found on the fingertips. These physical specificities are mapped onto more abstract characteristics, that is, personal style in writing. The metaphor insists on the specificity of the author’s personal style: this one cannot be interchanged with another author’s style, as a person’s fingerprints cannot be interchanged with those of another person. The metaphor focuses on the specific qualities of each author’s style, and, at the same time, on the positive value of stylometry that is capable of determining an author’s identity.

2.2.2.2 *Finger as a person*

As a noun, *finger* first refers to a person metonymically (4 occurrences out 18 metonymic examples; see appendix 2), as in the following example:

- (8) *Unglazed and firmly closed against small **finger**s, these are the medicine cabinets containing invalid food, " Torch brand hydrogen, Allenbury's vaseline, swabs, bandages and splints. (Corpus: 175, BNC_Written.txt at position 3012662)*

In (8), fingers are conceptualized as the person to whom the fingers belong. The metonymy enables a focus on the fingers, which are the salient “agentive” parts when touching or grasping. Indeed, the medicine cabinets are closed to prevent people from finding, grasping and taking possession of dangerous substances or objects such as “torch brand hydrogen”. The adjective “small” placed before “fingers” enables one to know more precisely which people “fingers” refer to, that is, “children”, the length of fingers being interpreted as people’s size (and, therefore, age).

Below is another example of *finger* as referring metonymically to a person:

- (9) *His pigtailed youngest daughter, Mary, found that her quick eye and nimble "old enough to be trusted" **finger**s were invaluable in the unpacking, placing and appreciation of the tiny articles that arrived almost hourly by carrier... (Corpus: 171, BNC_Written.txt at position 2966336)*

As in (9), *fingers* are still conceptualized as the person to whom the fingers belong, that is, “Mary” (if “her” is a co-reference to Mary in the example). It is also the case of the body-part “eye” that

represents “Mary” as well. This metonymy creates a personified effect: both body parts “eye” and “fingers” are personified and seem to be responsible for the actions “unpacking, placing, and appreciation of the tiny articles”. What this suggests is that these body parts are utilized when doing these actions, so that they are the salient parts. The metonymy insists on the importance of these body parts in doing the actions, without which those actions could not be done. Furthermore, the adjectives connoted positively “quick” before “eye”, and “nimble”, “old enough” and “trusted” before “fingers”, highlight and focus on Mary’s qualities in doing her job, and thus on her competence. She appears to be an experienced (“old enough to be trusted”) and skilled (“quick”, “nimble”) person.

Syntactic structure of the sentence is modified with the metonymy on *finger* (see also “grammatical metonymy” in the third Part):

(10) *Usquebaugh*

Deft, practised, eager,

*Your **fingers** twist the metal cap.* (Corpus: BNC_Written.txt at position 5844767)

It is not literally the fingers that are the agent of the action “twist” but the person they belong to. The fingers are the means that enables the agent to perform the act of twisting. The use of *finger* illustrates the MEANS FOR AGENT metonymy, in which the “real” agent is not part of the syntactic structure of the sentence itself. This metonymy has been called “grammatical” (Velasco 2000), since it has grammatical effects together with semantic ones. Indeed, the agent loses his prominent role, as being syntactically erased from the sentence, while the means “fingers” achieves a more relevant one, as raised to the subject position. For this reason, this metonymy entails a valency reduction in the grammatical clause and the agent loses its privileged position.

2.2.2.3 *Finger as a focused stage of an act*

With such a metonymy, *finger* is a verb (2 out of 6 occurrences of this metonymic type; see appendix 2) or appears in an expression that contains a verb on which the meaning of *finger* depends (4 out of 6 occurrences; see appendix 2). In the example below, *finger* is a verb and the act of *fingering* consists of touching or manipulating by the means of the fingers:

(11) *She stood **finger**ing the tresses of the willow, branches of which wept over the upturned hull of a boat...*
(Corpus: BNC_Written.txt at position 4843604)

The act of touching or manipulating is viewed as the means needed to perform this act, and the fingers represent this means. The use of fingers is here interpreted as the MEANS FOR ACTION metonymy (see also the same metonymic type in the corpus-based analysis on *hand*), since more complex meaning is retrieved. It does not only deal with the body part *finger*, but also with the idea of movement and action of the subject's fingers. This added semantic feature suggests that this occurrence of *finger* is metonymic rather than literal, and consequently is "higher" in the semantic scale (see "semantic scale" in the first part of this dissertation).

In the following examples, *finger* appears in some "fixed" expressions that are usually employed in oral language. These expressions and their possible origins are going to be examined.

Let us consider the first idiom below:

(12) *...only occasionally does the narrator let himself testify. As a rule, he prefers to shake his **finger** at men as they move by wrong paths from the cradle to the grave, and to remind himself with a frown that he, too, is human...*
(Corpus: 147, BNC_Written.txt at position 1329549)

The idiom "shake one's finger at" here corresponds to the attitude of the narrator who disapproves of men's actions, and criticizes the wrong choices they make throughout their lives. In a way, the narrator plays the role of a person who has supernatural power, as he is able to project himself into the future, and know all the things that happen to everyone. This ability confers the role of the wise man on him, that is, the role of the person that warns men against following wrong paths throughout their lives. This warning act of the narrator is conceptualized as the admonitory gesture usually made to someone when warning him/her against something, or when disapproving something he/she does. Indeed, when warning someone, it is a common way in Western culture to point your finger at the person you want to warn, and move it side to side quickly as a way of showing that you disapprove what he/she is doing. This idiom with *finger* could then reflect the GESTURE FOR ACTION conceptual metonymy, in which the action of disapproving by the agent "narrator" is represented as the gesture commonly made when warning someone to indicate disapproval; in other words, the gesture represents the counterpart of its referent. This creates a more realistic effect, as it calls up a mental image of a concrete scene of someone warning someone else. As such, the reader can mentally visualize a concrete scene of what they read, and the subject "narrator" becomes an actor that the "public reader" is looking at.

The same meaning of “shake one’s finger at” is illustrated with the expression “finger wagging” with “wag” conveying the same idea as “shake”:

(13) ...*suffering from quite stupendous hangovers incurred through the intake of near-fatal levels of alcohol the night before, and their subsequent professional careers sternly **finger-wagging** at any member of the general public who dares to consume over the course of a week what they themselves had been perfectly happy to sink during the average evening.* (Corpus: 172, BNC_Written.txt at position 5751985)

In (13), “finger wagging” means “warning”, but physically finger wagging is the gesture that may be made when warning, as it is the case with “shake one’s finger” in (12). As such, the realistic effect conveyed by the metonymy helps the reader understand the absurdity of the situation: by making the characters finger wagging, the narrator puts them on the foreground of the scene as if performing in front of the reader. The narrator wants to focus on the hypocrisy of the characters who act in a certain way during the day when placed “on the foreground of the scene” or “in the spotlights”, but behave exactly in an opposite way when not performing anymore. The discrepancy between the characters’ activity during the day and what the characters really are, is displayed with the personification of “professional careers”, this style effect showing that their professional careers make them act as “wise people” during the day, as if they were wearing a costume and acting.

The same conceptual metonymy is found with the idiom “cross one’s fingers” in the following example:

(14) ***Fingers** are crossed that huge spending cuts will spare capital projects (road, rail, London tube, for example) that would create -- or at least protect -- jobs.* (Corpus: 149, BNC_Written.txt at position 1430469)

In (14), the expression “cross one’s fingers” is utilized when a person wishes or hopes that some project is successful. In the context above, the speaker thus wishes that huge spending cuts will effectively spare capital projects. This wish is conceptualized as the typical gesture made when wishing something. Indeed, it is a common gesture to cross one’s fingers when wishing something in Western culture. As in (12) and (13), it depicts the GESTURE FOR ACTION conceptual metonymy, in which the act of “wishing” is represented by the gesture that refers to this same act. The gesture of crossing one’s fingers, the possible origin of which may date back the 1920s (Titelman, 2000), invoked the traditional superstition that bad luck may be averted by making the sign of the cross, even if this superstition is no longer practiced nor believed.

Let us now analyse the same conceptual metonymy in the expression “point the finger of suspicion at someone”, as in the following example:

(15) *By Reuter in Damascus*

*SYRIA yesterday denounced the assassination of the Lebanese President, Rene Muawad, 17 days after he took office, and pointed the **finger** of suspicion at General Michel Aoun. (Corpus: 154, BNC_Written.txt at position 2125085)*

This expression is used when accusing someone. It invokes the gesture made by a witness when pointing at the person he/she accuses in a court. It therefore also reflects the GESTURE FOR ACTION conceptual metonymy, in which accusing someone is viewed as pointing his finger at this person, as if the accused person was before a court and was being judged. This metonymic effect may create a realistic effect, in the sense that there are some good reasons to make the suspected character “General Michel Aoun” appear in front of a court.

The described gestures from (12) through (15), are part of “emblematic gestures” or “emblems” (Beattie 2003), that is, specific gestures with specific meanings that are consciously employed as substitutes for words, since they are part of cultural gestures understood by the members of the same community.

Finger may also be conceptualized metaphorically in particular contexts that we are going to examine.

2.2.3 Metaphoric use

2.2.3.1 *Finger and characteristics of the target referent*

With this type of metaphor (2 occurrences out of 2 metaphoric examples; see appendix 2), *finger* is a noun (compounds included) and refers to the source element whose characteristics are in some way “similar” to those of the target referent. Let us examine the following example:

(16) *To see some jolly neighbours cook*

Down in their kitchen, like a lighted box

Beyond the fence, where over fox-glove, mint, and ribs of fern, the small dark plain

***Fingers** of ivy graze my pane. (Corpus: 167, BNC_Written.txt at position 5860486)*

In (16), *fingers* refers metaphorically to ivy “stems”. The mapping creates an “assimilation” effect, as ivy stems are viewed as *fingers*, due to some common property. The common property in question is the shape, as both appear to be thin and long. An ivy stem is shaped like a finger, so that it is represented as a finger in the metaphor. However, this assimilation effect is not limited to the shape of both elements. It also conveys an idea of movement and agency to the ivy stems, these latter being able to move, touch and grasp as fingers usually do. Ivy is therefore personified in a way: fingers belong to a person, as ivy stems are part of an ivy plant. Personification of the ivy plant could confer an agentive role upon it, as could be the case here with the ivy plant that is invasively spreading all around the pane.

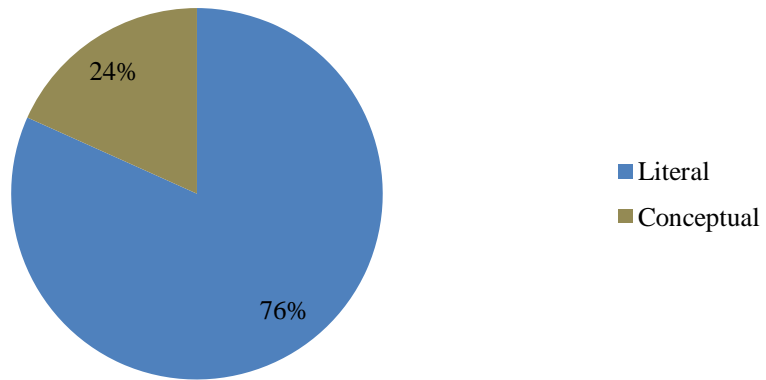
In the example below, the assimilation effect of the metaphoric *finger* only applies to the shape of the target element, that is, “fish”, which refers to “long fillets”:

(17) *For he has this grace, that he is happy to eat fish **fingers** or Chinese takeaway or to cook the supper himself.*
(Corpus: 152, BNC_Written.txt at position 5838299)

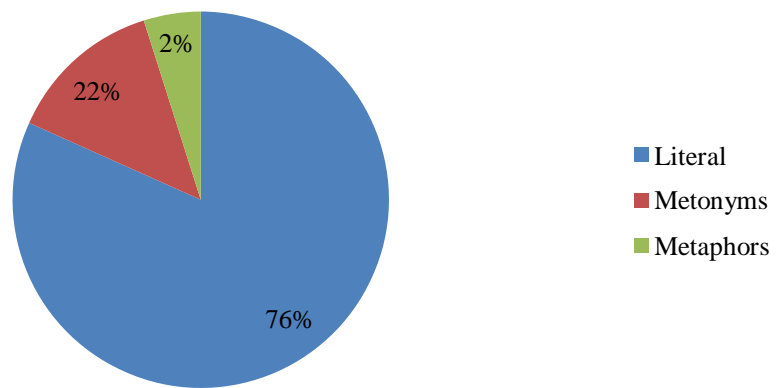
2.2.4 Table of results: written BNC Corpus on Finger (Fingers, Fingered, Fingering)

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	62	61	0	1	0	0	0	
Metonyms	18	4	2	0	0	12	0	
Metaphors	2	1	0	1	0	0	0	
Mixed	0							
Metaphors from metonyms								
Metaphors within metonyms								
Others								
Total	82	78	2	2	0	0	0	

FINGER-



FINGER-



2.3 Arm (Arms)

Contrary to the other terms already studied, different senses of *arm* can be based on different etymological meanings, and would thus be considered distinct meanings of the same phonological term *arm*, that is, distinct terms that have their proper meanings, even if written and pronounced the same. In this corpus, there is only one example like this, in which “arm” means “weapon” or is linked to the “weapon” meaning. This example has been excluded from the analysis.

2.3.1 Literal meaning

The literal sense of *arm* refers to the body-part, that is, to either one of the two upper limbs of the human body that extend from the shoulder to the wrist (54 occurrences out of 78 examples; see Appendix 3). What can be noted first is that the *arm* does not play the same role when put in contact with another physical element in quite a few literal examples. First, the *arm* appears to have a “passive” role when in contact with another physical element, which is usually another body-part (27 occurrences out of 54 literal examples; see appendix 3), as in the following example:

- (1) *But Winfield took her **arm** and pulled her up the stairs.
"You're my prisoner," he shouted at her, "and you're not going to leave." Then he pushed her into the bathroom and locked the door. (Corpus: BNC_Written.txt at position 5949090)*

In this example, the subject “Winfield” is the agent, and has an active role, since he performs the taking event. The agent’s hand is here the implicit “means of contact” by which the taking event can be performed, and by which contact with the object “arm” can occur. The means of contact “hand” is thus considered the “active” element that moves to the “passive” or fixed element, “arm”. In quite a few examples in the corpus though, the *arm* appears to have an “active” role, since it is the means by which action and contact can occur. Consider the example below:

(2) *...He hesitated, then put his **arm** on the man's shoulders... (Corpus: BNC_Written.txt at position 5678690)*

Here, the agent's arm is considered the explicit means of contact. It is the active element that moves to the passive element "the man's shoulders".

To summarize, even though "arm" is the grammatical object of the verbs "took" and "put" in the examples above, the role the *arm* plays is different in both contexts: passive in (1)—when it does not belong to the agent— and active in (2) —when it belongs to the agent.

When no contact occurs with another physical element (14 occurrences out 54 literal examples), the *arm* can still play an active role. For instance, it may be the means used to make significant gestures that have their own meanings, as displayed by emblematic gestures. Consider the following example:

(3) *There is no need to learn all the semaphore signs before beginning to signal. Try learning the letters A to G. You must make A, B and C with the RIGHT arm, but D can be made with either **arm**. If you're signalling E, F and G, you must do it with your LEFT arm. (Corpus: BNC_Written.txt at position 504660)*

In (3), the arm is used to reproduce letters of the semaphore alphabet, which is a gestural system for sending information by means of two flags that are held one in each hand and by means of the position of the signaller's arms (definition based on thefreedictionary.com).

Consider also the following example:

(4) *The man's **arm** went up and he threw the grenade through the open door. (Corpus: BNC_Written.txt at position 6015511)*

In (4), "went up" is an intransitive verb whose subject "the man's arm" is not agentive. However, the verb "went up" is understood as an "action" verb, that is, a dynamic act controlled by an agent. Furthermore, the real agent of the action is implicitly understood in the semantic interpretation of the phrase, whose agentive counterpart is:

(5) *He moved his arm up and threw the grenade through the open door.*

As in example (13) with “every fabric handles differently” from the corpus-based analysis of *handle*, the action verb “went up” is here used metonymically as a process verb (see also “ACTION FOR PROCESS” metonymy by Ruiz de Mendoza and Pérez 2001). This metonymy has grammatical or syntactic effects on the organization of the clause (Velasco 2002), since the object, that is, “the man’s arm” occupies the position of subject. This new syntactical position also has some semantic effects on the interpretation of the sentence. Indeed, by becoming the subject of the sentence, the man’s body-part *arm* becomes the salient part of the sentence and is personified in a way, as if it were the real agent of the action of going up. The metonymic interpretation of the verb therefore confers an active role on the agent’s *arm*, as if it were responsible for the action. In the example below, the *arm* is not in direct contact with another element and has a passive role, since it is used as a spatial distance indicator:

(6) *Holding her at **arm**'s length he stared into her face as if to memorise every detail. (Corpus: BNC_Written.txt at position 4907031)*

In (6), contact between both human participants “he” and “she” is more likely to occur by the means of the hands, rather than the direct means of the *arms*. *Arm* refers to the physical distance between the two participants.

To summarize, below are the semantic features that emerge from the literal sense of *arm* in this corpus:

- the *arm* is the means by which the agent performs the action that results in putting in contact the *arm* and another physical element (such as another body-part, a person, a concrete object). In such a case, the *arm* has an active role.
- the *arm* is a fixed physical element with which an active element (such as one of the agent’s body part, especially the hand) makes contact. In such a case, the *arm* has a passive role.
- the *arm* is the means by which emblematic gestures can be made (active role).
- the *arm* is the means by which distance between two persons can be estimated (passive role).

2.3.2 Metonymic use

2.3.2.1 *Arm as a person*

There is only one example of this type of in the corpus. Here, *arm* refers metonymically to the person it belongs to:

- (7) *"I shouldn't be here!" she thought, as the train went faster.
"I'll be in terrible trouble!"
She put out a hand and touched the nearest **arm**, and the driver turned round quickly... (Corpus: BNC_Written.txt at position 5370292)*

In this example, *arm* is a substitute for “person” and illustrates the BODY-PART FOR A PERSON metonymy, and, more generally, the “PART FOR WHOLE” metonymy. *Arm* is here the salient element when contact occurs, since it is part of the zone of contact between the active element that corresponds to the agent’s hand and the passive one, which corresponds to the object touched by the agent’s hand, that is, a person, and more precisely a person’s arm. The metonymy enables to individualize the zone of contact more precisely. It conveys the idea of anonymity of the person touched, since only their arm is noticed and in focus. This could give a sense of “urgency” to the scene, as the agent “she” seems to be upset and it seems that she has no time to notice details that surround her (see “I shouldn’t be here” and “I’ll be in terrible trouble” that indicate the character’s psychological state; see also “the train went faster” and “the driver turned round quickly” that indicate immediacy).

2.3.2.2 *Arm as a characteristic of a category*

Arm appears as a modifier in a compound (2 occurrences out of 4 metonymic examples; see appendix 3), as in the following examples:

- (8) *A trickle of returning Romanian dissidents, wearing **arm** bands and rallying behind the National Salvation Front, have arrived in the capital. (Corpus: BNC_Written.txt at position 2714069)*
- (9) *The eighteen " period walnut **arm** chairs are three inches high... (Corpus: BNC_Written.txt at position 2991409)*

In (9), note that *arm* has been interpreted metonymically, because of its syntactical position as adjective. In a different syntactic structure, such as “the arm of the chair”, in which *arm* is still a noun but appears in a nominal position, *arm* would have been interpreted metaphorically, since the side rests of the chair would have been conceptualized as the body-part *arm*, due to some common properties between the two:

- the shape: both are thin and long
- the position: both are composed of two elements that are linked to the upper part of a main structure on either side of it. Indeed, a chair is composed of two side rests that are linked to its upper part on either side of it; likewise, the human body is composed of two arms that are jointed to its upper part on either side of it.

2.1.1.3. Arm as a focused stage of an act

This type of metonymy is only found once in the corpus. Consider this example:

(10) ...*He was eaten by two one eyed tigers walking along a path arm in arm!*... (Corpus: BNC_Written.txt at position 5287387)

The expression “arm in arm” literally means “with one person’s arm linked around another’s”. The agent “tigers” seem here to be personified, since they have *arms*, which are part of the human body. This personification would highlight how powerful the tigers are, as they are considered human beings, rather than animals. However, even if considered human beings, the tigers are not literally arm in arm here, but rather physically close to each other. The walking event is here performed in a particular manner, that is, “arm in arm”, which in fact corresponds to the physical position they adopt when doing the action. Thus, the fact of being physically close to somebody or something is the result of the manner— “arm in arm”—in which the action is performed. This semantic interpretation is summarized in the schema below, in which the horizontal arrow indicates the result or consequence of the preceding phrase:



This example therefore reflects the MANNER FOR RESULT metonymy, in which the manner in which an action is performed stands for the effect this manner has in a concrete situation, and more specifically in the spatial organization of the concrete objects or participants that are part of this concrete situation. In this context, this metonymy could highlight the harmonious relationships the two tigers have, since “arm in arm” is a physical position that suggests friendship and intimacy. Thus, the use of “arm in arm” adds a semantic feature, the types of relationships between the two tigers, in the description of the scene, which would not have been present if the literal phrase “physically close to each other” had been used instead.

2.3.3 Metaphoric use

In all the metaphoric examples of the corpus (16 occurrences out of 24 conceptual examples; see appendix 3), some characteristics of the target referents are considered similar to the ones of the human body-part *arm*, which is the source element. We are going to analyze these common characteristics between the source and target elements:

- *Arm as an active part or component of a main structure* (10 occurrences out of 24 metaphorical examples; see appendix 3)

This first characteristic is found in the following example:

(11) *Tobacco-to-insurance group BAT reveals third quarter figures on Wednesday. A much improved performance from its insurance **arm** Eagle Star should push profits for the nine months over the £1bn mark. (Corpus: BNC_Written.txt at position 1403891)*

Arm here designates a functional division of a main firm that deals with a specific activity. Indeed, Eagle Star appears to be an insurance company that has been acquired by the main firm BAT (British American Tobacco), so that Eagle Star is part of the main group BAT, and actively participates in the good development of this main group by making profits. Here, the functional division of a main firm is conceptualized metaphorically as the human body-part *arm*, since both seems to be organized the same way:

- a division of a firm is considered a part of a main firm, as the arm is considered a part of the body.
 - a division of a firm firmly depends on the main firm, as the arm “firmly depends on” the body by being jointed to it.
 - a division of a firm has an active role in the main firm by contributing to its development; likewise the arm is an “active” part of the body, since it enables the hand to better act on the objects that surround us. Indeed, objects of our environment are more accessible to the hand thanks to arm length and this allows a better control of the physical environment.
- Shape of the *arm* (6 occurrences out of 16 metaphorical examples; see appendix 3)

This second characteristic is found in the examples below:

(12) *There is beautiful scenery to be seen travelling to Malbork, a town on the eastern **arm** of the Vistula where there is a famous red brick Gothic castle, built in the 13th Century. (Corpus: BNC_Written.txt at position 140220)*

(13) *Optional cording sets with overlap **arm** are available which enable the curtains to overlap at the centre when closed. (Corpus: BNC_Written.txt at position 566957)*

In (12), *arm* designates an inlet of water that is a narrow and long extension of water jutting out from a larger mass of water, here the Vistula, which is the longest and most important river in Poland. Here, this narrow and long extension of water is conceptualized metaphorically as the human body-part arm, because of their similar shape. Indeed both appear to be narrow and long. Furthermore, as in the previous example—see (11) above, both are part of a main structure and are connected to this main structure. Indeed, an inlet of water is part of a river that is a larger mass of water, and is linked to it; likewise, the *arm* is part of the body and jointed to it.

In (13), an “overlap arm” is a device that allows the curtains to overlap in the middle. This device is conceptualized metaphorically as the body-part *arm* because of their quite similar shape, as seen in (12). Moreover, this device is also a part of a main structure and linked to the curtain rod, so the target *arm* in this example has also the first characteristic in common with the body-part *arm*.

2.3.4 Interaction between metonymy and metaphor

In the corpus, interaction between metaphor and metonymy appears in the multi-word expression “shot in the arm” (4 occurrences out of 24 conceptual examples; see appendix 3), as in the following example:

(14) *The "Music" industry received a shot in the **arm**, with the success of the Beatles in the sixties. (Corpus: BNC_Written.txt at position 1794571)*

The literal expression highlights the physical and mental effects a shot or an injection of drug can produce when injected in the body-part *arm*. These effects are physiological, so that they touch on the human body in general, and can be described as stimulus of the body:

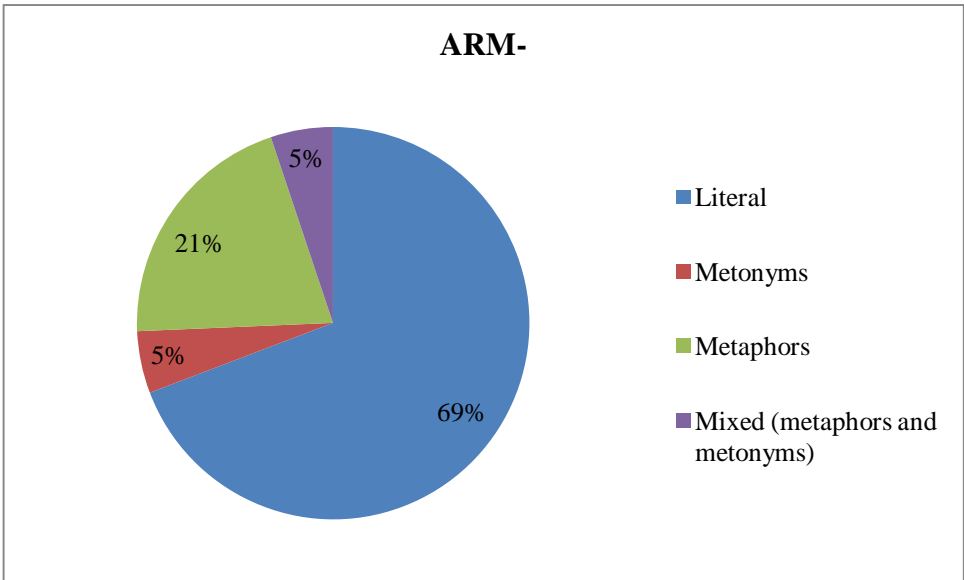
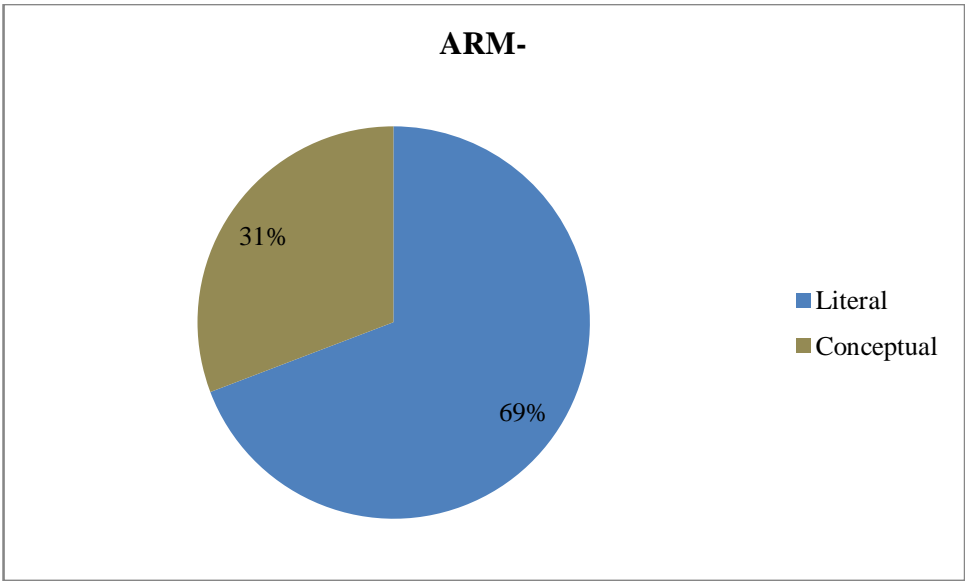
- physical stimulus if the injected drug entails a physical reaction or reaction of the body parts or organs that contribute in increasing the physical activity of a person, such as the heart.
- mental stimulus if the injected drug entails a mental reaction or reaction of the body-parts or organs that contribute in increasing the mental activity of a person, that is, the brain.

The literal use of the phrase “shot in the arm” therefore reveals the ACTION FOR RESULT metonymy, in which the action of injecting drug into the body-part *arm* stands for the physiological effects that are produced with this injection of drug. Somebody taking drugs is also typically represented as someone taking a shot in their arm; this latter thus corresponds to the typical gesture associated with someone taking drugs. The use of the phrase a “a shot in the arm” could therefore also reflect the “GESTURE FOR RESULT” metonymy, in which the gesture of making a shot into the arm stands for the physiological effects that are produced when taking drugs.

In the context of (14) however, even if the phrase “a shot in the arm” means “a stimulus”, this latter is a “stimulus of activity”, which can be described as an increase in activity of the Music industry. It does not deal with a “stimulus of the body”, as it is the case when the phrase is used literally or metonymically. Hence, the phrase is here used metaphorically, so that a sector of activity is conceptualized as the human body.

2.3.5 Table of results: written BNC of *Arm* (*Arms*)

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	54	54	0	0	0	0	0	
Metonyms	4	4	0	0	0	0	0	
Metaphors	16	16	0	0	0	0	0	
Mixed	4							
Metaphors from metonyms	4	0	0	0	0	4	0	
Metaphors within metonyms	0							
Others	0							
Total	78	74	0	0	0	4	0	



2.4 Elbow

2.4.1 Literal sense

The literal sense of *elbow* refers to the human body-part, that is, to the bend of the arm that joins the forearm to the upper arm (5 occurrences out of 9 examples; see appendix 4). In the examples below, *elbow* has a passive role, when in contact with another physical element that is another body-part:

- (1) *...Elisabeth put her hand under Rosa Jacobsen's **elbow** and led her into the cottage... (Corpus: BNC_Written.txt at position 4951123)*
- (2) *Claudius takes Ros's **elbow** as he passes and is immediately deep in conversation... (Corpus: BNC_Written.txt at position 5520177)*

When no contact occurs with another physical element, *elbow* appears to have a more active role, since it is the means used to perform the action, as in the following example:

- (3) *As the final chimes faded, Daniel raised himself on one **elbow** and started to outline with his finger the pattern of reflected leaves that decorated Elisabeth's body. (Corpus: BNC_Written.txt at position 4904013)*

In (3), the agent “Daniel” can perform the action “raise” with the use of his elbow, which here enables him to adopt and maintain a “raised” position or position up from the floor.

In the following example, *elbow* has an active role as well, because of its grammatical position in the sentence—see also example (5) in the based-corpus analysis of *arm*:

- (4) *...He moved towards the first Apache, holding his drink, his **elbow** sliding along the edge of the bar until he was right next to the Apache... (Corpus: BNC_Written.txt at position 6062494)*

In (4) the verb “slide” first appears not to be agentive, since its subject “elbow” is inanimate. However, the sliding event is understood as being agentive, as the implicit human agent “he” is the one who is responsible for the sliding event and the motion of his elbow. “Slide” can thus be considered an action verb here, and the sliding event a dynamic act controlled by a human agent. The agentive counterpart of (4) would be:

- (5) *...He moved towards the first Apache, holding his drink, sliding his **elbow** along the edge of the bar until he was right next to the Apache...*

The verb “slide” is here used metonymically as a process verb (see ACTION FOR PROCESS metonymy by Ruiz de Mendoza and Pérez 2001). This metonymy entails a grammatical or syntactic reorganization of the sentence (Velasco 2002), since the agent’s *elbow* now occupies the position of subject, while the human agent or “real” subject of the clause disappears from the sentence (even if it is semantically present). These syntactic or grammatical effects of the metonymy also entail semantic effects. Indeed, being placed in the position of subject, the body-part “elbow” is in focus. It is considered the active element that plays a role in the sliding event.

2.4.2 Metaphoric use

In this part, the expression “at someone’s elbow” will be studied (4 occurrences).

2.4.2.1 *The haptic metaphor: physical interaction*

As already seen in the previous corpus-based analyses, this type of metaphor indicates that target elements are conceptualized as elements involved in active touch or as concrete objects that are “touched” (in the general sense of the term, since “touching” can imply “manipulating”, “handling” or any other type of act, in which touch occurs) to achieve a particular goal (3 occurrences out of 4 metaphorical examples). Below is an example found in the corpus:

- (6) *A court equerry appeared at that point at the prince's **elbow**.
"My lord prince," he said, "the king your father desires speech with you." (Corpus: BNC_Written.txt at position 5061231)*

The expression “at the prince’s elbow” is here a spatial indicator that means “near”, “beside”, “close to”, or “within easy reach”. It thus indicates spatial proximity or close distance. *Elbow* is not used in its literal meaning, since this expression can also be found in contexts in which a person, and therefore a person’s elbow as well, is not present, as in the following example, taken from Dictionary.com (based on the Random House Dictionary. © Random House, Inc., 2011):

(7) *A virtue of the cottage is that the ocean is at your elbow.*

To explain why *elbow* is used to express close proximity, it is important to note where it is placed within the body. Indeed, the elbow can be considered the most external body-part. As such, the elbow appears to be placed at the limits of the body space and positioned towards the external space. Hence, it can be considered the closest body-part to the external space. The elbow therefore seems to be the most adequate body-part to express or highlight proximity between a person's body and elements of the External Space (see the definition of Body Space and External Space in the corpus-based analysis of *hand*).

The fact that this expression appears in contexts in which a person (and thus a person's *elbow*) is not present, suggests that when using this expression, close distance or spatial proximity is conceptualized in terms of physical contact with the body in the body space. Consequently, it would illustrate conceptual metaphors such as CLOSE DISTANCE IS TOUCHING ZONE IN THE BODY SPACE. With the use of *elbow*, physical contact implied in the source domain appears to be passive, however, since the *elbow* is not the body-part the most adequate for active touch, contrary to the hand, in which such a metaphor is also available—see example (60) with “at hand” for instance, in the corpus-based analysis of *hand*. Indeed, the hand appears to be active when touching, since it can manipulate and transform physical elements it touches, for instance. Furthermore, the hand is the most external body-part, that is, the body-part that is the most turned to the External Space, when the arm is extended.

Even if the *elbow* is considered passive when touch occurs, contrary to the hand, which is considered active this expression with *elbow* has been considered a type of haptic metaphor, since physical contact with the *elbow* in the source domain enables physical interaction with the external world or with elements of the External Space, as the hand does. Note that this type of metaphor with *elbow* is also found in other expressions, such as “at one's finger tips” or “under one's nose”.

2.4.2.2 *The haptic metaphor: mental interaction*

Consider now the following example, in which the same expression as above, that is, “at someone's elbow”, is found:

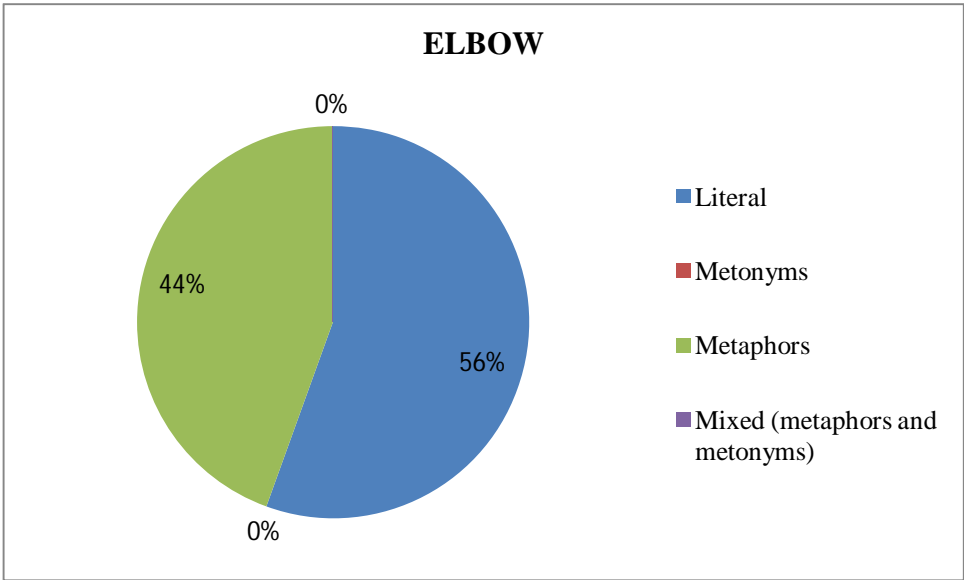
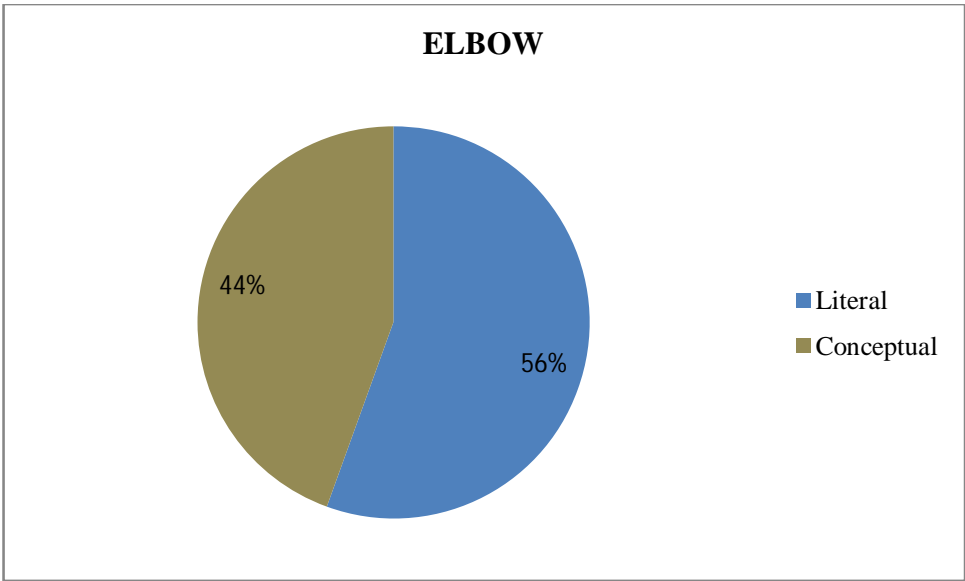
- (8) *"Edward is wont to forget, you understand, being such a new sovereign -- and 'tis my duty to remind him."
"Alas that a child of barely eleven summers must stand at the king's **elbow** to remind him of his duty!"
lamented Elizabeth Woodville.
"Woe is me that Edward's kinsmen, plucked from his side during his first moments of kingship, lie now in the
dungeons of Pontefract!" (Corpus: BNC_Written.txt at position 5114745)*

In (8), the meaning of the expression differs, since it does not really deal with spatial or physical proximity, but rather “mental” proximity (only one occurrence out of 4 metaphorical examples). Indeed, as shown by the immediate context, “stand at the king’s elbow” indirectly suggests “remind him of his duty”, which consists of supporting him by being immediately present if necessary. It thus seems that a double metaphor is found: first, the one studied above, in which the expression “at someone’s elbow” is metaphorical, indicating physical or spatial proximity, so that physical interaction between the two participants in the context is highlighted; second, this example would reflect the MENTAL SUPPORT IS PHYSICAL PROXIMITY conceptual metaphor, in which helping and supporting someone is conceptualized as being beside them. Hence, such a metaphor would highlight mental interaction between the two participants in the context.

One might also note the use of “his side” in the example, which seems to indicate mental support as well. The expression “on his side” could therefore be used literally to indicate spatial or physical proximity between two persons or metaphorically to indicate mental proximity or support.

2.4.3 Table of results: written BNC Corpus on *Elbow*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad
Literal	5	5	0	0	0	0	0	
Metonyms	0	0	0	0	0	0	0	
Metaphors	4	4	0	0	0	0	0	
Mixed								
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	0							
Total	9	9	0	0	0	0	0	



2.5 Elbow (Brown Corpus)

Below is the corpus-based analysis of *elbow*, based on the Brown Corpus. The conceptual sense of this term is focused on, since new conceptual senses have been found in this corpus.

2.5.1 Literal sense

As seen in the previous BNC-based analysis of *elbow*, the literal sense of this term refers to the human body-part, that is, to the bend of the arm that joins the forearm to the upper arm (6 occurrences out of 8 examples; see appendix 5). In the examples of the corpus, *elbow* mostly appears in descriptions as a point of reference for other physical focused elements, as in the following examples, in which the focused elements are “the second skin” in (1), and “the sleeves” in (2):

- (1) *In spots such as the **elbows** and knees the second skin is worn off and I realized the aborigines were much darker than they appeared; as if the coating of sweat, dirt, and ashes were a cosmetic. (Corpus: Brown.txt at position 3092836)*
- (2) *He wore tennis shorts and a white sweater with a red V at the neck, the sleeves pushed above the **elbows**. (Corpus: Brown.txt at position 7236813)*

2.5.2 Metonymic use

2.5.2.1 Elbow as a person with the “Part for Whole” and “Whole for Part” metonymies

These metonymies appear in only one occurrence out of 2, as below:

- (3) *When their levies came shambling into camp, they were all **elbows**, hair, and beard. They emerged as interchangeable cogs in a faulty but formidable machine: shaved nearly naked, hair queued, greatcoated, jackbooted... (Corpus: Brown.txt at position 3819574)*

In this example, the body part term *elbows* metonymically stands for the person(s) they belong to, due to the use of a hyperbole, which “involves the exaggerated expression of a negative or positive appreciation of something” (Geeraerts 1994: 2823). According to this hyperbole, the levies have been reduced to nothing more than the remaining body parts “elbows, hair, and beard”. This type of metonymies can be called “hyperbolically used metonymies” (Feyaerts 1999: 320).

Furthermore, the plural form on only two elbows are identified, corresponding to the pair of elbows each person has.

- they refer to all the persons’ elbows and some pairs of elbows are thus identified, the number of these latter depending on the number of people present.

In this context, the second interpretation is valid, since the plural personal pronoun “they”, for instance, suggests that more than one person is identified. However, when analyzing quantification of the next two body part terms “hair” and “beard” used metonymically as well, we realize that the use of the plural form on *elbows* can be explained metonymically by the first interpretation. Indeed, while “hair” is an uncountable noun, which cannot receive plural affixation, “beard” is a countable one, which can receive it. In this context, since more than one person is present, “beard” should receive plural affixation, and there should be as many beards as there are people present. The singular form is used instead of the plural one, and the choice of this syntactic form therefore reveals another PART FOR WHOLE metonymy, in which one beard stands for all the beards. As these three body parts metonymically stand for the same target, that is, people they belong to, and used in an enumeration, they logically structured the same. *Elbows* and “hair” should thus reveal the same metonymy as “beard” as well.

Note that the pronoun *all* quantifying “levies” is a globalizing pronoun that is employed to generalize over the group of levies by referring to a salient property of a majority of levies in the group. Indeed, if the property of having elbows may be considered an inalienable property of all human beings without exception, the property of having a beard (or even hair) is not considered as being so. Thus, even if some levies might not have a beard, there are so many levies who have one, that these latter reflect what the image of the whole group is; as such, the ones who do not have a beard may be metonymically referred to as having one. The pronoun *all* would thus also exemplify the SALIENT MEMBERS OF THE GROUP AS THE GROUP metonymy, which would also explain metonymy on body parts *elbow, hair, and beard*. This globalizing effect is also created by the context, in which the idea of confusion among the group is found with the verb “scramble”, so that a clear image of each person being part of the group is not possible.

2.5.2.2 *Elbow as a focused stage of an act*

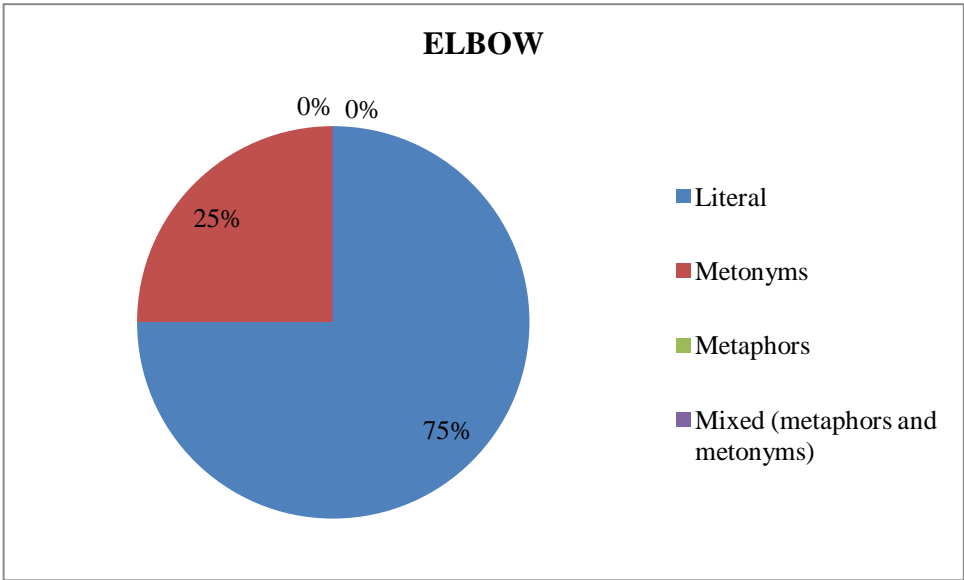
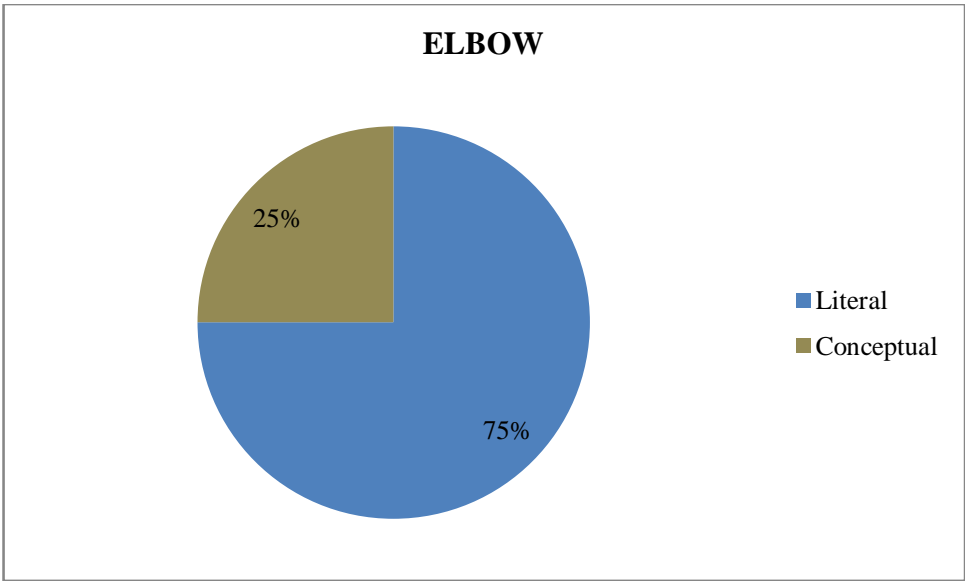
Below is the only example of 2 found in the corpus:

- (4) *They moved toward the skiffs with shocking eagerness, **elbowing** and shoving. Four men were knocked down, but did not attempt to rise. (Corpus: Brown.txt at position 6344854)*

In (4), “elbowing” is a gerund and the act of elbowing consists of giving somebody a blow by the means of one’s elbow(s). The act of giving a blow is thus construed as the means used to perform this act. This example therefore illustrates the MEANS FOR ACTION metonymy (see also the same metonymic type in the corpus-based analyses of *hand* and *finger*), in which the means used to perform the target action stands for the target action itself. Hence, the active role of the body-part “elbow” is in focus with the metonymy.

2.5.3 Table of results: Brown Corpus on *Elbow*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	6	6	0	0	0	0	0	
Metonyms	2	2	0	0	0	0	0	
Metaphors	0	0	0	0	0	0	0	
Mixed	0							
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	0							
Total	8	8	0	0	0	0	0	



2.6 Knuckle

2.6.1 Literal sense

This refers especially to a joint of a finger. Consider the first example from the corpus:

- (1) *He holds you by the voice of his demands,
Which take unfaltering body on the air
As need itself, live, famished, clenched like hand
Pale at the **knuckle**. Then, his luminous stare,
That too. (Corpus: BNC_Written.txt at position 5878866)*

“Pale at the knuckle” appears to be used literally to describe the “hands” (see “like”, which is the descriptive marker) that are clenched or close tightly, so that blood rushes away from the knuckles, such that these latter are white- or pale-coloured.

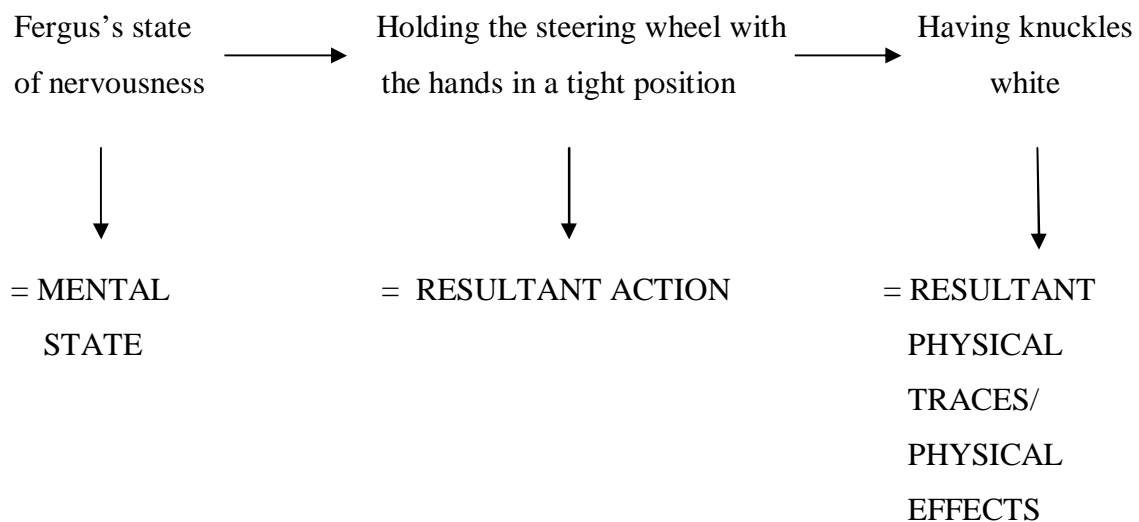
Below is the second one:

- (2) *"Fiona!" Fergus shouted, **knuckle**s white on the steering wheel.
"For God's sake, there's nothing to have your nose rubbed in! Julie's just a friend. I haven't touched her!"
(Corpus: BNC_Written.txt at position 5813286)*

Here again, “knuckles white” appears to be used literally to describe the character, “Fergus”, that holds the steering wheel so tightly, that his knuckles are white-coloured. In other terms, “knuckles white” indicates what the knuckles look like. The colour of his knuckles would be a physical effect or response of the act of holding the steering wheel tightly. It can also be considered a visible or physical trace of his hidden mental state, since holding something with your hands in a tight position, so that blood rushes away from your knuckles and these latter become white, indicates a state of nervousness or exasperation (see semantic elements indicating nervousness like “shouted”, “for God’s sake” and syntactic ones like exclamation points).

Based on these explanations, this use of “white knuckles” could also be considered “a focused stage of an act” metonym type, and represents the PHYSICAL EFFECTS FOR ACTION metonymy. In such a case, the physical effects of having “knuckles white” would stand for the action of holding the steering wheel very tightly. At the same time, it can be noted that this action is also the effect of the character’s hidden mental state of nervousness or exasperation. The metonymy would therefore be used to focus on the visible traces resulting from his nervousness.

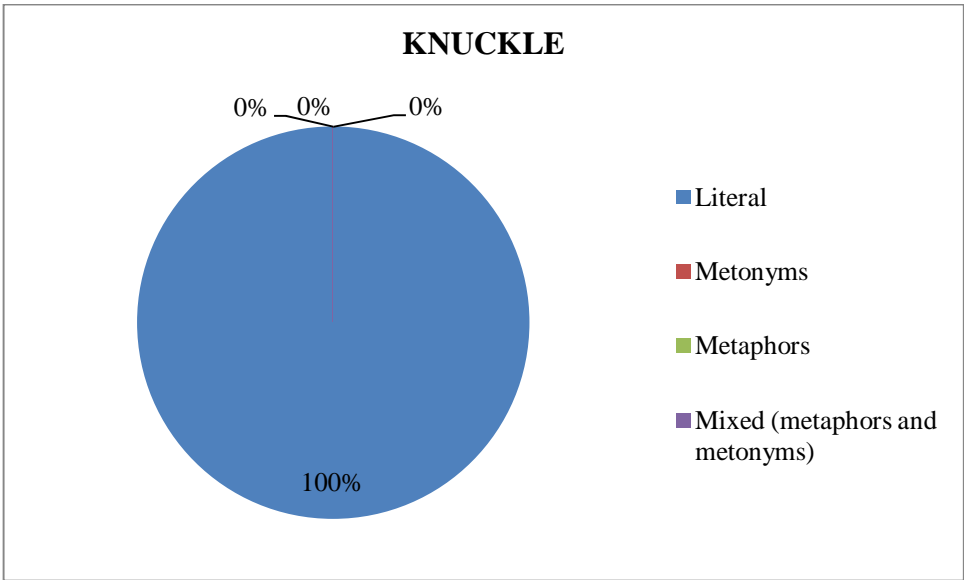
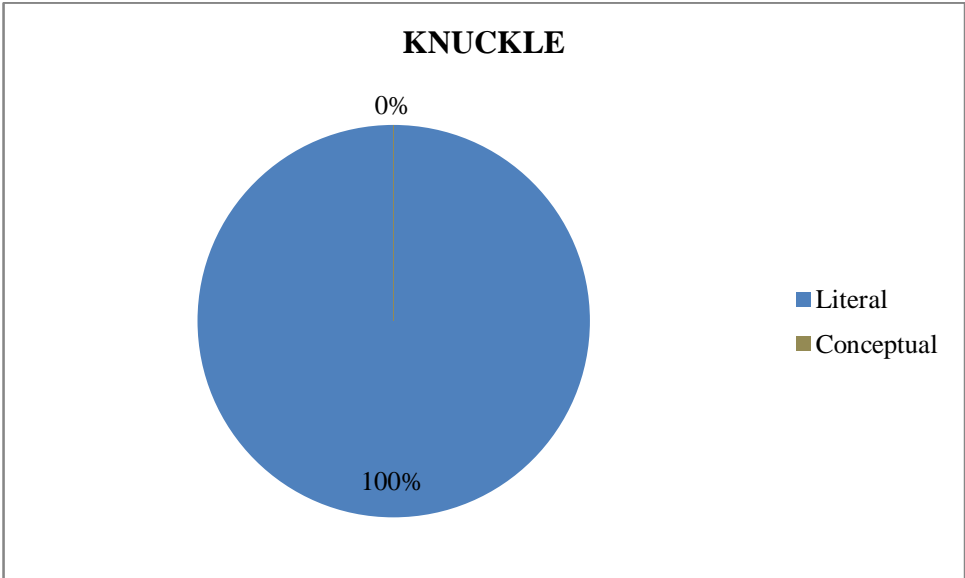
Below is a schema summarizing the situation:



The literal interpretation is preferred, as “knuckles white” seems only to refer to the description of the scene, as it is the case in (1).

2.6.2 Table of results: written BNC Corpus on *Knuckle*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	2	2	0	0	0	0	0	
Metonyms	0	0	0	0	0	0	0	
Metaphors	0	0	0	0	0	0	0	
Mixed	0							
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	0							
Total	2	0	0	0	0	0	0	



2.7 Knuckle (Brown Corpus)

Below is a corpus analysis of the polysemous term *knuckle*, based on the Brown Corpus. This Brown corpus-based study of this term is particularly interesting, since meanings that are not present in the British National Corpus, have been found, so that wider sources and more contexts can be analysed. One might also note the difficulty of interpreting some instances and classifying them in a general sense (literal or conceptual), or in a sub-category of a general sense (metonymy, metaphor, or metaphonymy). As previously done before in previous analyses, these instances are classified according to the preferred interpretation, even if the alternative (s) is(are) explained.

2.7.1 Literal sense

As seen in the study of *knuckle* based on the British National Corpus, this sense refers especially to a joint of a finger (6 occurrences out of 11 examples; see appendix 7).

In the instances in which the body-parts *knuckles* have no contact with another physical element—as in (1) below— (2 occurrences out of 6 literal examples) or in which the physical element with which they are in contact is not specified, or undefined— as in (2) below, in which the physical element is “something hard”—(1 occurrence out of 6 literal ones), the *knuckles* appear to have a passive role, in which they are not the means used to perform the main actions of “clutching” in (1) and “grazing” in (2) below:

- (1) *He was frightened; his fists clutched so tightly that his **knuckles** hurt.* (Corpus: Brown.txt at position 6115126)
- (2) *There was a thick, squashy crack of fist on flesh. Something hard grazed his **knuckles**.* (Corpus: Brown.txt at position 6778343)

In the following example, in which the *knuckles* are in contact with a concrete object—see “the air tank” in (3) below—2 occurrences out of 6 literal ones, the *knuckles* have an active role, in which they are the means used to perform the action of “scraping”, and are even considered the agent of the action, due to the syntactic organization of the phrase—see also example (4) in the BNC-based analysis of *elbow*:

- (3) ...Poet twisted again and Nick's *knuckles* scraped on the air tank, ripping off the skin. (Corpus: Brown.txt at position 6749761)

The act of “scraping” at first appears not to be an agentive act, since its subject “Nick’s knuckles” is inanimate. However, agentivity is present, since the human agent “Nick” is implicitly responsible for the motion of his *knuckles*, and thus for the act itself of scraping, as well. “Scraped” can therefore be considered an action verb, or a dynamic act controlled by the human agent “Nick”. Indeed, the agentive counterpart of (3) would be as follows:

- (4) ...Poet twisted again and Nick scraped his *knuckles* on the air tank, ripping off the skin.

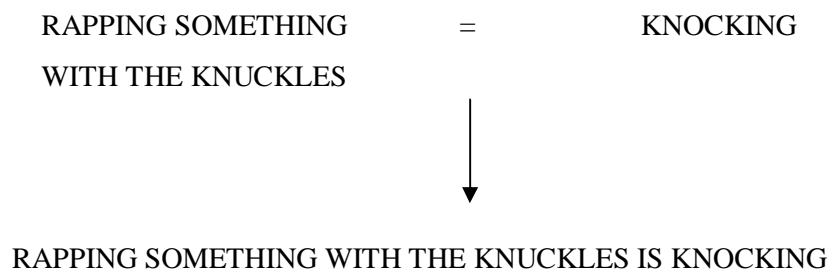
Hence, it can be deduced that the verb “scrape” is used metonymically as a process verb (see ACTION FOR PROCESS metonymy by Ruiz de Mendoza and Pérez 2001). A grammatical or syntactic reorganization of the sentence (Velasco 2002), that is, a change in the position of the arguments (the patient-object “knuckles” from the agentive interpretation of the phrase raised to the position of agent-subject) results from this metonymic use of the verb. These grammatical or syntactic effects, due to the metonymy, also entail semantic effects. Indeed, when raised to the position of subject, the body-parts *knuckles* are in focus and considered the active elements that play a role in the scraping event.

Consider now the following example, in which the act denoted by the verb is agentive and the *knuckles* have an active role:

- (5) Past it I could see part of a desk, a flag in a corner, a rug on the floor. The director's office. I rapped my *knuckles* on the counter. The director came to the door. (Corpus: Brown.txt at position 7001574)

In this example, “rapped my knuckles” is a description of the situation, which corresponds to the act of “knocking”. In other words, the concept of knocking is not referred to directly, but defined as the gesture that is usually made when knocking on the door. This way of referring to a concept

indirectly by describing it instead of naming it directly is a periphrasis. Even if related to metonymy, since the “target” element is not referred to directly, but is associated to the periphrastic element, the periphrasis is a different way of referring to a concept, as this association touches on the same level of the common domain of experience. On the contrary, the association of the target and source elements in the metonymy touches on different levels of this common domain of experience—see also example (18) of the corpus-based analysis of *push* and the explanation in example (4) of the corpus-based analysis of *fingertips*. This periphrastic situation is summarized in the schema below:



In the last literal example, in which the body-parts, *knuckles*, have no contact with another physical element, the *knuckles* appear in a description, as an adjective, and as the second component in a compound—see also example (4) in the corpus-based analysis of *finger*, as below:

(6) *Schiele's paintings are anything but pleasant. His people (see color) are angular and knobby-knuckled, sometimes painfully stretched, sometimes grotesquely foreshortened. (Corpus: Brown.txt at position 1097719)*

In this compound, the first element, that is, the adjective “knobby” (referred to as the “modifier”) is the modifying or specifying element that brings information on the second element “knuckled” (referred to as the “head”). Indeed, the adjective “knobby” gives some details about the shape of the *knuckles*. Furthermore, the past participle form (–EN) on “knuckled” indicates it is a modifier of the previous noun “people”, and therefore gives information on physical characteristics of these people, which are in focus.

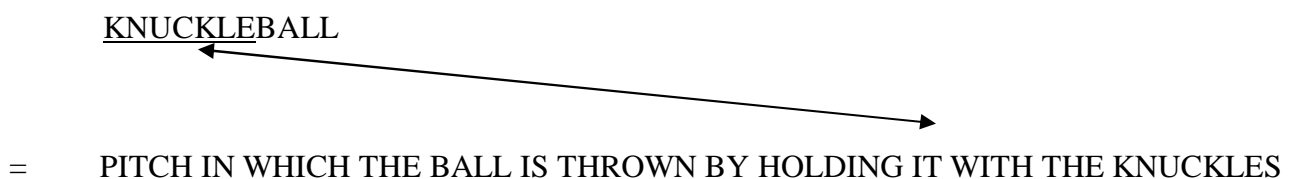
2.7.2 Metonymic use

2.7.2.1 *Knuckle as a characteristic of a category*

Knuckle appears as a modifier in a compound (only one occurrence out of 3 metonymic examples; see appendix 7). It refers metonymically to a salient feature that distinguishes it from others of the same basic level category (see also corpus-based analyses of *arm*, *touch*, *push* and *wrist*), as in the following example:

(7) *Skinny Brown and Hoyt Wilhelm, the Flock's veteran **knuckle**ball specialists, are slated to oppose the American League champions in tomorrow's 8 P.M. contest. (Corpus: Brown.txt at position 174890)*

A knuckleball is a baseball pitch, which was originally thrown by holding the ball with the *knuckles*. Being in an adjectival position, “knuckle” gives information on the following noun “ball”; it indicates the manner in which the ball was held when throwing this pitch, and therefore describes a characteristic of the object “ball”. This manner of holding the ball distinguishes this pitch from other types of pitches in baseball or other sport in which pitches are thrown. This semantic feature is summarized in the schema below:



It reflects the general PART FOR WHOLE metonymy, since a subcategory is part of a larger basic one, and, more specifically, “SALIENT PROPERTY FOR A BUNDLE OF PROPERTIES” (Otal & Navarro I Ferrando 2005: 19). One might also note that the compound “knuckleball” as a whole is metonymic, since the object “ball” used to perform the action of “throwing the pitch” stands for the action itself.

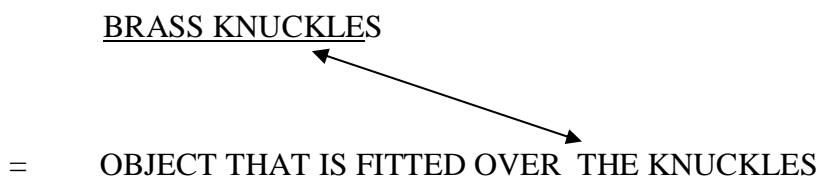
Furthermore, it can be noted that “knuckle” is syntactically linked, or attached, to the following noun “ball” it modifies, contrary to the compound “arm chair” in the corpus of *arm*. However, “knuckleball” is considered a compound, as it is originally formed with the two nouns “knuckle” and “ball”. As already seen in the corpus-based analysis of *wrist*, the fact that there is no space anymore between the two nouns has an effect on semantics. Indeed, the syntactic link between the two nouns can be explained by the fact that this specific characteristic of the metonymic “ball”, or more exactly the “pitch” (that is, the manner in which it is thrown) becomes of common use in everyday life, and thus also in the language. However, the space may appear as well, as it is the case with “arm chair”, which can be written as “armchair”, without space between the two nouns.

2.7.2.2 *Knuckle as an object in a compound*

Consider the example below, which is the only one out of 3 metonymic occurrences in the corpus:

- (8) *...and a policeman asserted he had found a pair of brass **knuckles** in Art's pocket once when he had occasion to collar the Great First Baseman for some forgotten reason... (Corpus: Brown.txt at position 2859035)*

In this example, “knuckles” designates a type of weapon that consists of a set of rings attached to a bar that can be fitted over the fingers, between the knuckles and fingertips, to increase the impact of a blow with a fist. Even if “knuckles” appears in a compound, it is the head and not the modifier, being a substitute for the object itself. As in the “characteristic of a category” metonymic type, *knuckles* is a characteristic of the object. Indeed, it indicates the location of this object, that is, “over the body-part knuckles”. This semantic feature is summarized in the schema below:



This example would thus illustrate the BODY-PART FOR OBJECT metonymy, in which *knuckle* represents an invisible or imaginary body-part and describes a particular characteristic of the object “brass knuckles”.

Even if the metonymic interpretation is preferred, “knuckles” could be interpreted metaphorically as well, because of similar characteristics with the source element, that is, the body-parts *knuckles*. Indeed, the target object “brass knuckles”, by consisting of a set of four rings attached to a bar, could be construed as the body-parts *knuckles*, with which it shares the same shape.

2.7.2.3 “Part for Whole” metonymy

Below is the only example out of 3 metonymic occurrences of the corpus:

- (9) *Ramey swung and caught the man just to the left of his mouth. It was a straight, solid, once-in-a-lifetime shot; he laid all four **knuckles** in between the man's cheekbone and his chin. (Corpus: Brown.txt at position 7238964)*

“Four knuckles” refers to the “hand”, or more exactly, the “fist”, but not to the literal body-part *knuckles* only, as the *knuckles* are part of the body-part “hand” or “fist”, but do not consist of the hand or the fist as a whole. This example therefore illustrates the “PART FOR WHOLE” metonymy, in which a part of the fist, that is, the *knuckles*, stands for the fist as a whole. The metonymy enables to highlight the “active” part of the fist that causes the shot to have such an impact on the man.

If the writer specifically referred to the body-part *knuckles* and not to the fist, this example would be interpreted literally.

2.7.3 Interaction between metonymy and metaphor

Two examples of interaction between metonymy and metaphor have been retrieved from the corpus, and both appear to reflect the “metaphor from metonymy” interaction type. Consider these two examples below:

(10) *Oil-field workers were a rough-tough lot. How could he exert authority over them- make them toe the line, as he had to- if he **knuckle** under to this small-town clown? "I'll get around to it a little later", he mumbled desperately. (Corpus: Brown.txt at position 7046202)*

(11) *It is disconcerting, nevertheless, to read in a labor weekly, "Perluss **knuckles** down to growers", and then to be confronted with a growers' publication which states, "Perluss recognizes obviously phony and trumped-up strikes as bona fide". (Corpus: Brown.txt at position 5467607)*

In (10), “Knuckle under” was first recorded in 1740, according to the Online Etymology Dictionary (<http://www.etymonline.com/index.php?term=knuckle>), and has the sense of “yielding” or “submitting to”. The sense of this verb seems to have three possible origins:

- 1) a variation on the earlier phrase “knock under”, which would be an abbreviation of the obsolete phrase “knock under board or under the table”. Knocking under the table would be a tavern habit used when defeated in an argument or other competitions, which would date from the late 17th century (<http://www.joe-ks.com/phrases/phrasesK.htm>).
- 2) the earlier sense of bending the knee in respect or submission. Although *knuckle* now refers to the joint of a finger, in Anglo-Saxon and Medieval English, it used to refer to other body-parts' joints, such as the joint of the knee here (<http://www.joe-ks.com/phrases/phrasesK.htm>).
- 3) the kneeling position or gesture of submission, with hands on the ground, knuckles down (<http://www.wordwizard.com/phpbb3/viewtopic.php?f=7&t=20670>).

It can be first noted that the last two possible origins of “knuckle under” above explain why “knuckle down” had the same meaning of “yielding” or “submitting to” in the 18th century. While “knuckle down” could be now used with a different meaning, “knuckle under” would still have the same meaning. According to these possible origins, “knuckle under”, which corresponds to the position of submission, that is, to the literal position of the knee in a lower position, seems first to be metonymic and conceptualized as the act of bending the knee itself. Such an example therefore primarily invokes the MANNER FOR ACTION metonymy, in which the manner of placing the knuckle in a lower position stands for the act of bending the knee.

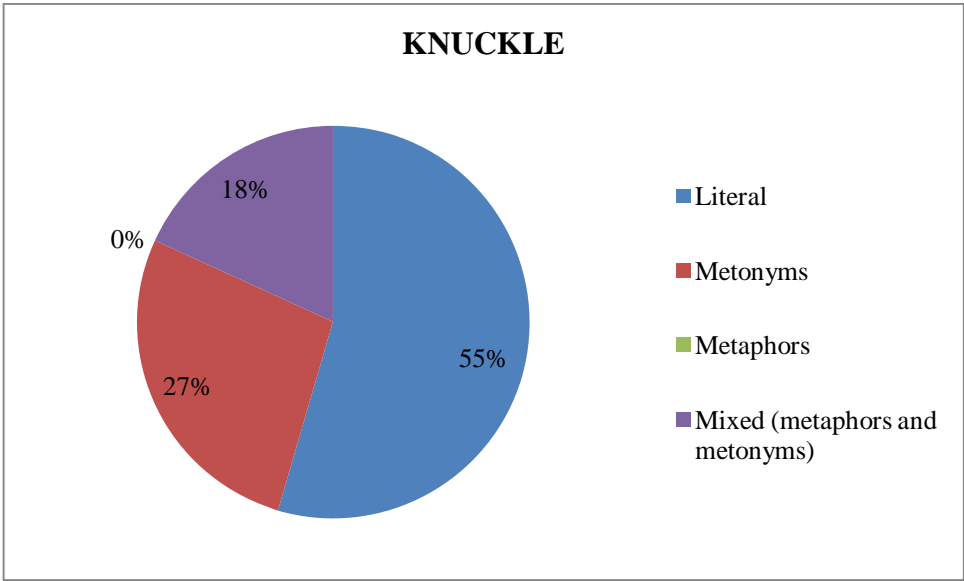
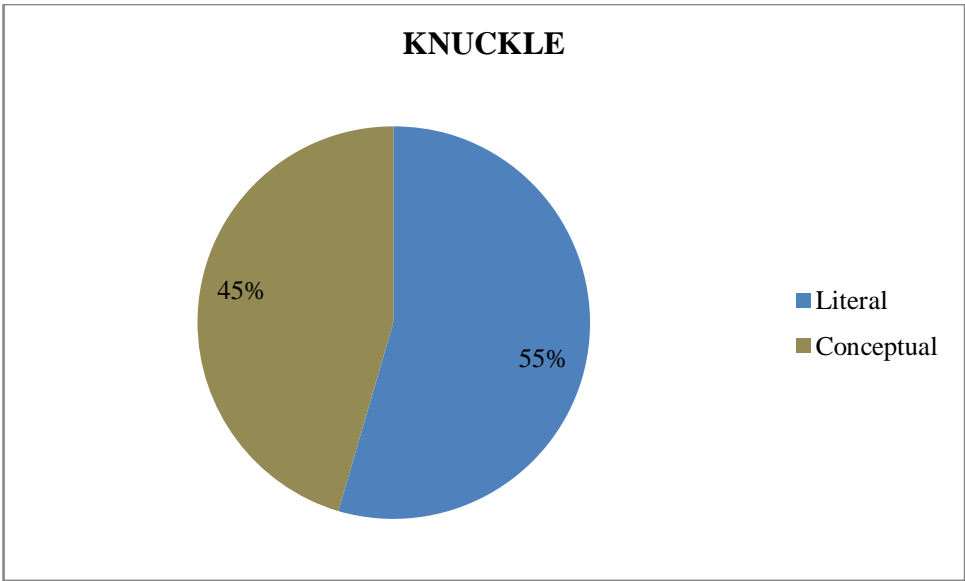
Furthermore, according to the first possible origin, “knuckle under”, which corresponds to the position of the knuckles under the table, is principally used metonymically as well, and conceptualized as the action of knocking under the table. Hence, this example also reveals the MANNER FOR ACTION metonymy, in which the manner of placing the knuckle under the table stands for the action of knocking under the table.

However, “knuckle under” does not refer to the act of bending the knee in submission or knocking under the table when defeated, but rather complying with or submitting to someone, here “this small town clown”. The fact that the use of “knuckle under” applies to larger contexts than the earlier ones, a similar characteristic or semantic feature of all definitions is found. This common feature is the concept of submission or defeat that is present in all these three definitions. Consequently, example (10) also illustrates the SUBMITTING TO SOMEONE IS BENDING THE KNEE or SUBMITTING TO SOMEONE IS BEING DEFEATED conceptual metaphors, depending on which possible origin is taken into account.

In (11), since 1864, “knuckle down” refers to applying oneself vigorously (Webster’s Dictionary and Online Etymology Dictionary in <http://www.etymonline.com/index.php?term=knuckle>), while before, in the 18th century, it was used to mean “yield” or “submit to” something. In this extract, “knuckle down” seems to apply to the original definition. Perluss finds it “disconcerting” to learn that others believe that he has “yielded” to grower’s demands. As discussed in the previous example, the idea of submission conveyed by “knuckle down” would best refer to the second and third origins of “knuckle under”, so that the same metaphor from metonymy is found.

2.7.4 Table of results: Brown Corpus on *Knuckle*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	6	5	0	1	0	0	0	
Metonyms	3	3	0	0	0	0	0	
Metaphors	0	0	0	0	0	0	0	
Mixed	2							
Metaphors from metonyms	2	0	2	0	0	0	0	
Metaphors within metonyms	0							
Others	0							
Total	11	8	2	1	0	0	0	



2.8 Palm

As in the corpus-based analysis of *arm*, retrieved *palm* meanings were originally based on different etymological meanings, but these meanings seem to share similar semantic features, since similar etymologic source between them is retrieved. These similar semantic features will be brought to light in the following analysis.

2.8.1 Literal meaning

The literal term *palm* refers to the body-part, that is the flat part of the hand that joins all the fingers together (5 occurrences out of 10 examples; see appendix 8). As found in the corpus-based analysis of *arm*, the *palm* seems to have different functions when in contact with another element, especially another body-part (4 out of 5 literal occurrences), as in the following examples:

- (1) *He laid the **palm** of his hand across Elisabeth's forehead and pressed back the curls that tumbled over her brow. (Corpus: BNC_Written.txt at position 4904976)*
- (2) *He took her hand but this time, instead of the formal kiss, he turned her hand over and kissed the **palm**, sending little ripples of pleasure coursing through her body. (Corpus: BNC_Written.txt at position 5073085)*

In (1), the agent's *palm* appears to have an active role when in contact with the other participant's body-part "forehead", since it is the means by which the action "laid" can be performed and contact can occur. It is considered the "moving" element that enters in contact with a passive one. Conversely, in (2), the *palm* appears to be the passive element and a destination point to reach when contact occurs (see also corpus-based analysis of *arm*).

When contact occurs with another body part of the same person, especially the agent, the *palm* can have an active role as well, since it is the means by which significant or emblematic gestures are made—see also example (8) in the corpus-based analysis of *hand*, example (3) in the corpus-based analysis of *arm*, and Beattie 2003. Below is an example of significant gesture:

- (3) *Fiona slapped one palm off her forehead, then crossed her arms, looked away, out of the dark side window. "Fuck; did I swear? Oh fuck. Oh what a silly fucking cow I must fucking be."*(Corpus: BNC_Written.txt at position 5809052)

In (3), slapping the *palm* of one's hand to the forehead is the gesture that is usually made by someone that is annoyed or exasperated. The *palm* is thus used to display an emotion. Here, what can be noted is that the direction taken by the *palm* is "off" the forehead and not "to" it. The use of "off" could indicate that the meaningful phase of the gesture, usually called the "stroke" (McNeill 1992), has already been made, and that the context describes the final part of the gesture, usually called the "retraction" phase (McNeill 1992), in which the active means *palm* would return to its initial, natural, and passive position. Here, this final part of the gesture or retraction phase would consist of the movement of the *palm* off the forehead to another position in which the arms are crossed (see "then crossed her arms").

In the example below, the *palm* is not really in contact with another body-part and has a passive role, since it is used as a spatial indicator—see also example (7) in the corpus-based analysis of *hand*, and example (6) in the corpus-based analysis of *arm*:

- (4) *Daniel took Elisabeth's hands in his and turned them palm up...*(Corpus: BNC_Written.txt at position 4906364)

In (4), there is no real contact between Daniel's hands and Elisabeth's palms, but rather between Daniel's hands and Elisabeth's. "Palm up" here indicates how Elisabeth's hands are positioned.

To summarize, below are the semantic features that emerge from the literal sense of *palm* in this corpus (see also the corpus-based analysis of *arm*):

- the *palm* is the means by which the agent performs the action that results in putting in contact the palm and another physical element (such as another body-part, a person, a concrete object). In such a case, the *palm* has an active role.
- the *palm* is a fixed physical element with which an active element (such as one of the agent's body parts, especially the hand) makes contact. In such a case, the *palm* has a passive role.
- the *palm* is the means by which significant or emblematic gestures are made (active role).

- the *palm* is the means used to indicate how a person's body, especially the hands, are positioned (passive role).

2.8.2 Metaphoric use

2.8.2.1 *Palm and characteristics of the target referent*

This type of metaphor corresponds to the one found in the corpus-based analysis of *finger*, in which the target referent in the context shares some “physical” characteristics with the source element, which is here the human body-part *palm* (3 out of 4 metaphorical occurrences; see appendix 8).

Below is an example:

- (5) *...Hear how the dawn wind whis-per-ing moves all the **palm** leaves,
With silver and green in rice-fields bright patterns it weaves. (Corpus: BNC_Written.txt at position 525352)*

Here, *palm* represents a tree with long and narrow leaves. This could have been a distinct meaning from the body-part *palm*, but both meanings derive from the Latin term “palma” that refers to both the body-part and the tree. The palm tree is conceptualized metaphorically as the human body-part *palm*, because of their common shape. Indeed, the palm tree is composed of a central part that joins long and narrow leaves and is reminiscent of the body-part *palm*, which is the central part of the hand that joins the fingers together. Palm leaves are also reminiscent of the fingers of the hand, since they are both long and narrow.

2.8.2.2 *The haptic metaphor*

In this corpus as well, one example is found in which the target element is conceptualized as an element involved in active touch (see also corpus-based analyses of *hand*, *handle*, *touch*, *seize*, and *push*). Below is this example, in which *palm* appears in a multi-word expression:

- (6) *It had long been believed that he who held the Tower, held London in the **palm** of his hand. (Corpus: BNC_Written.txt at position 5098861)*

In this example, holding London “in the palm of his hand” means having London under his control, and (6) thus reflects the CONTROLLING IS TOUCHING or the CONTROLLING IS HOLDING SOMETHING IN THE HAND conceptual metaphor. The fact that the object “London” is “in the palm of” the hand (and not just “in the hand”) reinforces this idea of control and suggests an absolute control over the object. Indeed, the palm is the central flat part of the hand, and therefore conveys stability; when an object is placed and held in the palm of the hand, this latter prevents it from falling, and enables the person who holds it to maintain control over the object—see also example (65) in the corpus-based analysis of *hand*.

2.8.3 Interaction between metonymy and metaphor

Interaction between metaphor and metonymy is found once in the corpus and both metaphoric and metonymic interpretations of *palm* are retrieved from the target domain:

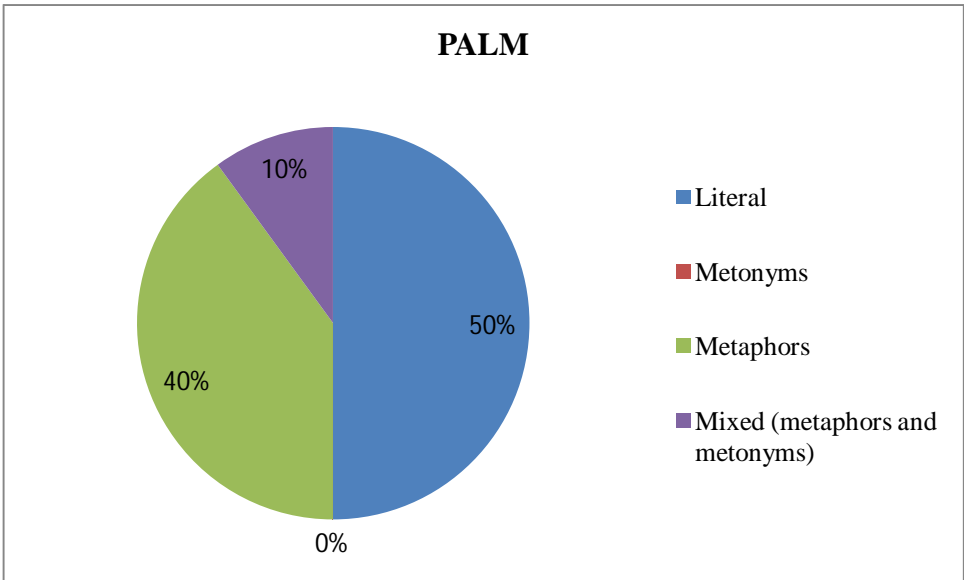
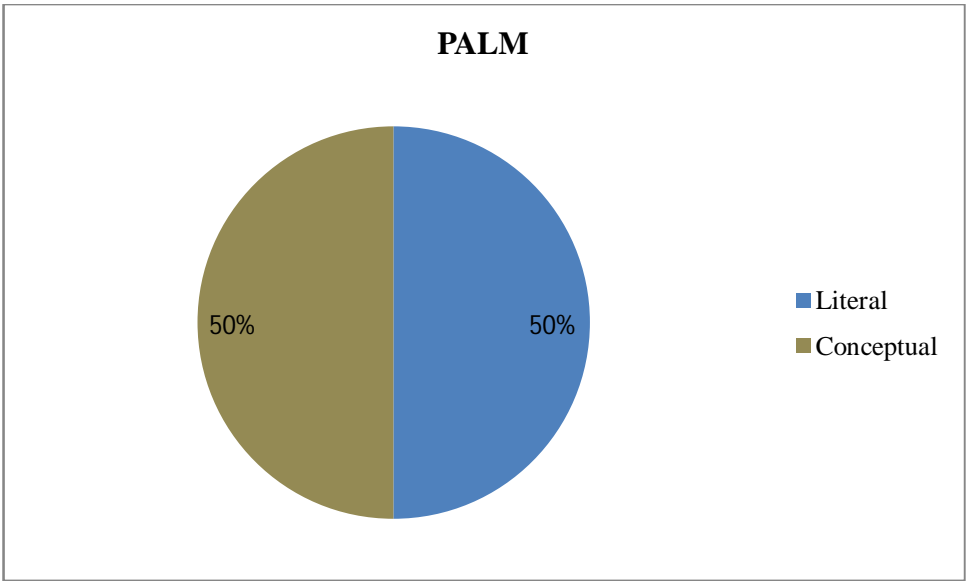
(7) *He was appointed CB in 1945, and received also the American legion of merit and medal of freedom with silver palm...* (Corpus: *BNC_Written.txt* at position 3538980)

Here, the silver palm refers to the representation of a palm leaf in silver on a decoration of honour. As seen in the metaphoric part above, the *palm* is first conceptualized metaphorically as the body-part *palm*, since the shape of the palm leaves is reminiscent of the fingers of the hand. However, *palm* here refers to a palm leaf and not a whole palm tree. *Palm* in (7) therefore also illustrates the WHOLE FOR PART metonymy, in which the whole palm tree stands for one of its parts, that is, its leaf.

As the target term *palm* is interpreted both metaphorically and metonymically, this type of interaction has been called “metaphor with metonymy” (see also examples of “metaphor with metonymy” in the corpus-based analysis of *touch*).

2.8.4 Table of results: written BNC Corpus on *Palm*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	5	5	0	0	0	0	0	
Metonyms	0	0	0	0	0	0	0	
Metaphors	4	4	0	0	0	0	0	
Mixed	1							
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	1	1	0	0	0	0	0	
Total	10	10	0	0	0	0	0	



2.9 Fingertips

2.9.1 Literal sense

This refers to the tip or end of the finger. As studied in other previous analyses (see active and passive roles in the corpus-based analysis of *arm* especially), in one of the three examples retrieved from this corpus, the *fingertips* have an active role (they are the means used to perform the action of massaging) when in contact with another physical element, that is, “the hair” in the following example:

- (1) *When you remove your curlers or have finished tonging, loosen the curl by massaging your scalp with your **fingertips** and gently shaking your head, Don't brush your hair. (Corpus: BNC_Written.txt at position 217392)*

The *fingertips* have also a passive role in one of the three literal examples retrieved from this corpus, in which they are in contact with the concrete object “woollen gloves”:

- (2) *The sickening feel of woollen gloves being pulled onto your hands and hitting and blunting your **fingertips** so touch was lost. (Corpus: BNC_Written.txt at position 3727422)*

In the last literal example, the *fingertips* appear in a description, and no contact occurs with another physical entity:

- (3) *We lay at ease, an arm loose round a waist,
Or side by side and touching at the hips,
As if we were two trees, bough grazing bough,
The twigs being the toes or **fingertips**.
(Corpus: BNC_Written.txt at position 5863915)*

2.9.2 Metonymic use

Consider the following example, which is the only one with a conceptual interpretation retrieved from the corpus:

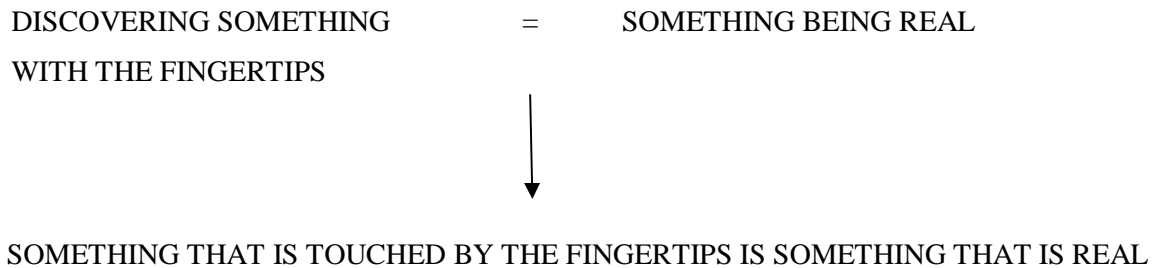
- (4) ... she had a way of conjuring up places, in terms of their dimensions, that led those same children to explore their houses and fields blindfold; the dark world that they discovered with their **fingertips** was new to them -- but not frightening as they had supposed it to be. Nor did Rosa Jacobsen stick slavishly to one version of a tale; it was important to her to show how many angles a single event could be viewed from. (Corpus: BNC_Written.txt at position 4957175)

In this example, the world that the children “discovered with their fingertips” implies that they discovered it “for real”, “concretely”, in opposition to “in their imagination” or “vicariously”. Reality and imagination appear to interact in this extract, since there is the presence of the real world in which the children are, and the world of the tale, in which the descriptions of the places are so realistic that reality and imagination blend. This example can be considered metonymic, since something that is touched with the body or one of the body-parts, that is, the fingertips here, entails that it is real or concrete. In other words, we can infer that something is real or concrete if it can be touched and felt by one of the parts of the body, especially the hands. In (4), something being real is conceptualized metonymically as something that can be felt by the fingertips, so that this example could illustrate the “focused stage of an act” metonymic type, and more exactly the RESULTANT STATE FOR ACTION metonymy, in which the literal action of touching or feeling something with the fingertips stands for the resultant state of this literal action, that is, the fact that the thing touched or felt is real or is part of reality.

This example has been interpreted metonymically, since the state of being real and the action of touching something with the fingertips can be associated in such a way that each corresponds to different stages of the same domain of experience that could be defined as the experience of the real world. In other words, both the state of being real and the action of touching something with the fingertips are part of the same domain of experience, but at different levels.

However, if such an association could not have been retrieved, “being real” and “touching with the fingertips” could have been “associated” in another way. Indeed, the interactions between both phrases could have been explained by the “description/definition” link, in which the phrase used in the utterance (that is, the source element in a conceptual association) would have been a

description of the situation, and the other (that is, the target element in a conceptual association) a “simplification” of this description or the direct concept in the language corresponding to this description. In (4), for instance, the phrase “discovered with the fingertips” could be considered a description of the phrase “being real”, this latter being thus the direct concept corresponding to this description. This is summarized in the schema below:

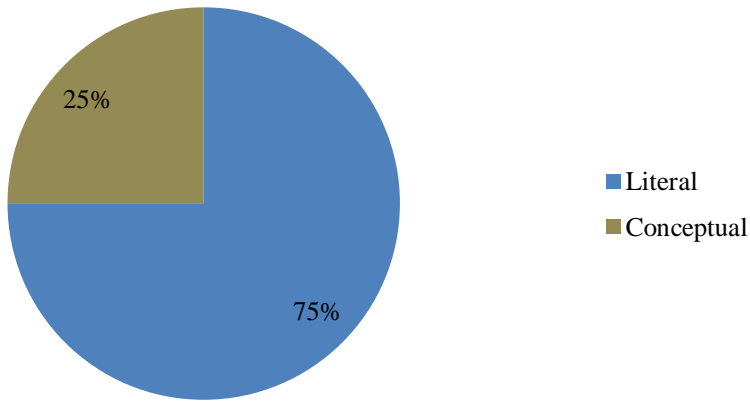


In such a case, the description, “discovering with the fingertips”, and the direct concept, “being real”, corresponding to this description, are not only part of the same domain of experience, but are part of this domain at the SAME level, since both correspond to the same concept of being real, but one indirectly while the other directly. The instance found in the example would therefore be a periphrasis, that is, a description of a concept that could be named directly. With such an interpretation, this instance of fingertips would have been considered literal and not metonymic (see also corpus-based analysis of *push*).

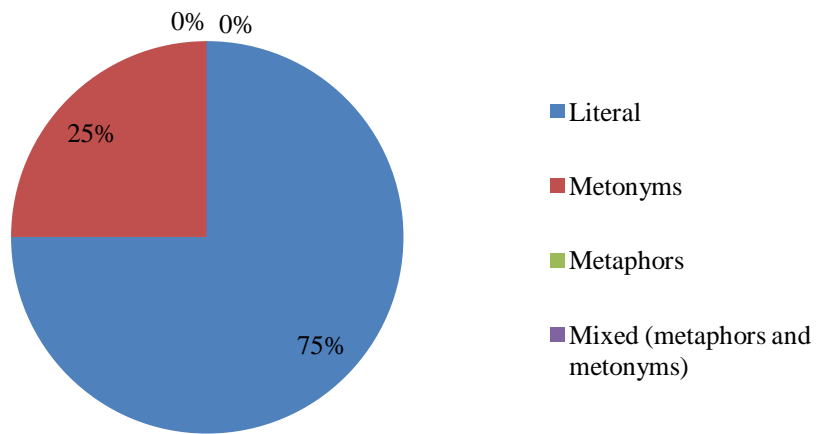
2.9.3 Table of results: written BNC Corpus on *Fingertips*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	3	3	0	0	0	0	0	
Metonyms	1	1	0	0	0	0	0	
Metaphors	0	0	0	0	0	0	0	
Mixed	0							
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	0							
Total	4	4	0	0	0	0	0	

FINGERTIPS



FINGERTIPS



2.10 Wrist

2.10.1 Literal sense

As in previous analyses, the literal sense of *wrist* refers to the human body-part, that is, to the joint between the forearm and the hand (5 occurrences out of 7 examples; see appendix 10). In all the examples retrieved from the corpus, *wrist* has a passive role (see active and passive roles in the corpus-based analysis of *arm*) when in contact with another physical entity (4 out of 5 literal occurrences), as in the following examples:

- (1) *GUILE takes a third coin, spins, it, catches it in his right hand, turns it over on to his left wrist...*(Corpus: BNC_Written.txt at position 5454697)
- (2) *...and with a look so piteous, he takes her by the wrist and holds her hard...* (Corpus: BNC_Written.txt at position 5478592)
- (3) *Mary took a perfume spray from her handbag, applied the scent to wrists and neck.*(Corpus: BNC_Written.txt at position 5725526)

The physical entity with which *wrist* is in contact is a concrete object in (1), another body-part in (2)—implicit contact between his hand and her *wrist*, and a substance in (3).

When no contact occurs with another physical entity (1 out of 5 literal occurrences), *wrist* still appears to have a passive role, as below in the only example found in the corpus:

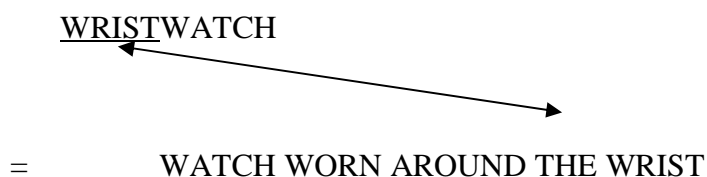
- (4) *Prentice clasped his hands in front of Rory's chin. Rory glanced at his wrists; thin and fragile looking.*(Corpus: BNC_Written.txt at position 5638449)

2.10.2 Metonymic use

In the corpus, *wrist* appears in a compound as a noun, but in an adjectival position (2 out of 7 conceptual occurrences; see appendix 10). It is used metonymically as a characteristic of a category (see also corpus-based analyses of *arm*, *touch* and *push*), as in the following example:

- (5) ...His fishy tale of finding a missing gold *wrist*watch inside a cod's stomach appears to be a wind-up.
(Corpus: BNC_Written.txt at position 273100)

A wristwatch is a watch that is worn around the *wrist*, as if it were a bracelet. *Wrist*, even if it is a noun, plays the role of an adjective, as it is the first term of the compound “wristwatch”. It thus gives information on the second term of the compound, that is, on “watch”. Indeed, *wrist* describes a salient attribute of this type of watch that distinguishes it from other entities of the same category. This type of watch can be distinguished from other types of watches such as the “stopwatch”, which has more than one characteristic that differs from the wristwatch: the location first, as the stopwatch is not necessarily worn around the *wrist*, but can also be worn around the neck; its role, as the stopwatch is typically used for timing (= measuring time) rather than time indication only. The semantic feature is summarized in the schema below:

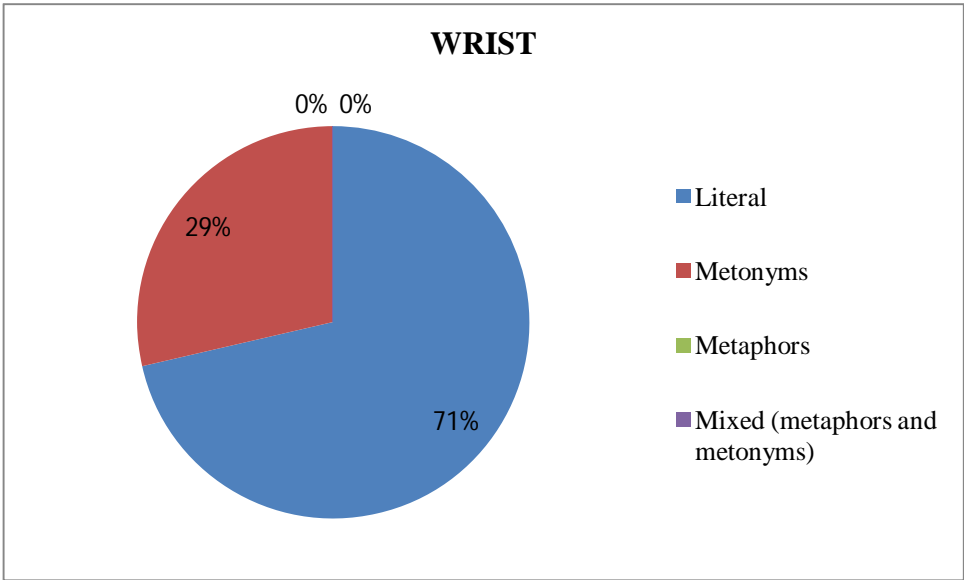
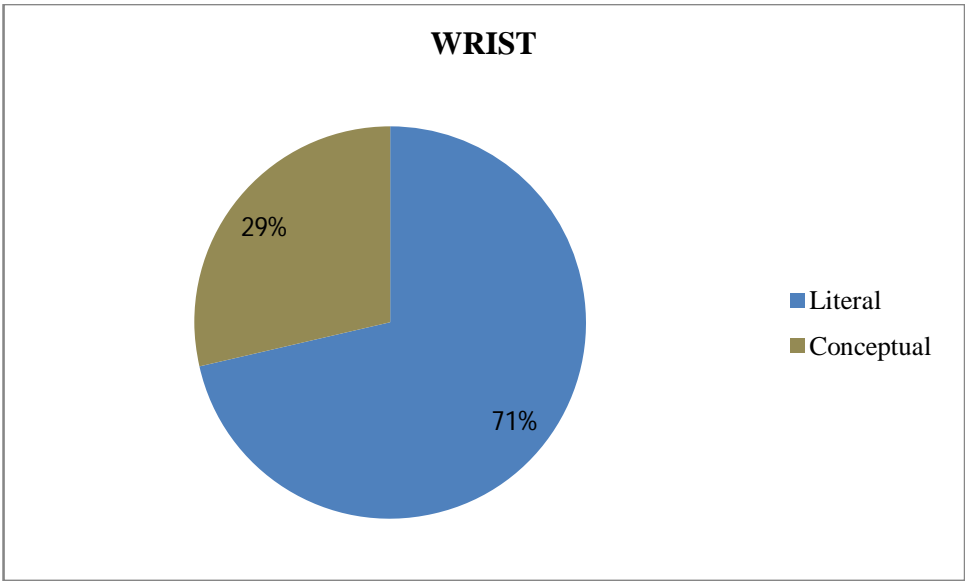


It reflects the general PART FOR WHOLE metonymy, since a subcategory is part of a larger basic one, more specifically, “SALIENT PROPERTY FOR A BUNDLE OF PROPERTIES” (Otal & Navarro I Ferrando, 2005: 19).

Even if “wristwatch” is considered a compound, as it is originally formed with the two nouns “wrist” and “watch”, it can be noted that the noun “wrist” is syntactically linked to the noun “watch” (there is no space that separates the second noun, “wrist”, from the first noun, “watch”, that it modifies), contrary to the compound “arm chair” in the corpus about *arm*. The fact that there is no more space between the two nouns has an effect on semantics. Indeed, the syntactic link between the two nouns can be explained by the fact that this specific characteristic of the watch (that is, its location) becomes of common use in everyday life, and thus also in the language. However, the space may appear as well (as it is the case with “arm chair” that can be written “armchair” without space between the two nouns).

2.10.3 Table of results: written BNC of *Wrist*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	5	5	0	0	0	0	0	
Metonyms	2	2	0	0	0	0	0	
Metaphors	0	0	0	0	0	0	0	
Mixed	0							
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	0							
Total	7	7	0	0	0	0	0	



2.11 Touch

2.11.1 Literal sense

2.11.1.1 Contact with the hand or another body-part

Our study begins with the most literal and prototypical use of *touch* (33 occurrences out of 38 literal examples; see appendix 11), that is, the act of putting one's hand on something or someone.

- (1) *I knew all these stars were a long, long way away but they didn't look far away. They looked very close; I wanted to reach out my hand and **touch** them. (Corpus: 184, BNC_Written.txt at position 5409656)*
- (2) *A moment later the slithery figure of the Town Clerk emerged from the Hall. He **touched** Pugwash on the arm. (Corpus: 151, BNC_Written.txt at position 4992732)*
- (3) *She put out a hand and **touched** the nearest arm, and the driver turned round quickly. "What are you doing here?" he shouted. (Corpus: 156, BNC_Written.txt at position 5370272)*
- (4) *I think he would have tore into Russell the next second, with his fists or his revolver, but now the Spencer was levelled at his belly; almost **touching** it. Early had his hand on his gun, but it had happened so fast even he couldn't do anything. (Corpus: 163, BNC_Written.txt at position 6064327)*

In all these examples, *touch* is a transitive verb and implies having a contact between the hand(s) and the touched "object." In (1), the touched object is represented by a substance, that is, material that does not have physical delimitations, even if present in physical space. In (2), it represents a person; in (3), it refers to the metonymic body part "arm", which stands as a person it belongs to, and in (4), it corresponds to a real, concrete object, that is, an object having physical delimitations.

- (5) *The curtains bowed in a few yards away, almost **touching** the window-sill, the movement like a wave. (Corpus: 160, BNC_Written.txt at position 5648729)*

It may also noted that in (5) "curtain" is personified and metaphorically construed as person. As such, *touch* has a literal more prototypical interpretation in the metaphorical mapping, which explains why this sense of *touch* has not been interpreted as in the "contact between two objects" sense below. The personification of the inanimate subject "curtain results in giving an agentive role

to the subject “curtain”, and the interpretation of *touch* is also more active than the interpretation it has with the “contact between two objects” sense below.

Furthermore, the use of –ING creates a “freeze frame” effect (my term). This active effect allows one to focus on the movement leading to the effect, “be in contact”.

2.11.1.2 *Contact between two objects*

The second literal meaning of *touch* implies a contact between two objects (5 occurrences out of 38 literal examples). There is a “passive” effect of *touch* in this sense, as no action is performed by an agent. *Touch* is a process and means “be in contact with”:

(6) *Iron the interfacing to the wrong side of the heading allowance, with its lower edge level with the marked top of the curtain and its ends **touching** the creaseline of the sides. (Corpus: 139, BNC_Written.txt at position 624128)*

(7) *A few minutes later the spaceship was falling towards a planet covered with tall buildings. Many of the buildings **touched** the clouds. (Corpus: 158, BNC_Written.txt at position 5438767)*

In these three examples, *touch* deals with physical contact between two inanimate objects, except for (7), in which the “touched object” (“the clouds”) is a substance that is not visible and that has no physical delimitations. As such, *touch* is more a static representation between two objects than a dynamic one, in which an agent “moves” the hands, even minimally, to be in contact with an object. This situation could represent a “fictive motion” situation, such as the one in the sentence “The blackboard runs all the way to the wall” (Coulson: 1531), in which the notion of extension in space is construed as physical motion. Fauconnier (1997) notes that fictive motion construction involves a blend between an abstract motion scenario and a static representation of the relations between two or more objects referred to in the construction (also Hutchins 2005). *Run*, however, would involve a more dynamic reading than the one with *touch*, which relates to a more passive type of interaction with the object. This latter may be compared to *manipulate*, which relates to a more dynamic type of interaction with the object. With *touch*, only the physical contact between the hand(s) and the touched object is in focus, while with *manipulate*, the movement of the hand(s) is in focus, and more particularly the movement of the fingers, which are the salient parts of the hand(s) when moving.

The literal sense of *touch* is often extended to other senses that are more or less close to the most prototypical meaning, which suggests the use of the hands in the action of putting in contact with the touched object. In the following section, these extended senses still consist of putting the subject and the touched object into contact, “physically” speaking, but the relationships between the two entities in contact are represented in a metonymic way.

2.11.2 Metonymic use

2.11.2.1 *Touch as power*

With this type of metonymy that is especially retrieved from religious contexts, *touch*, and, more exactly, the body parts that are involved in touching, are considered as power (3 occurrences out of 31 metonymic examples; see appendix 11).

Consider the following example:

- (1) *We pray for those who mourn, and for those who are sad for any reason. Lord, may each one know the gentle touch of your restoring hand. (Corpus: 156, BNC_Written.txt at position 1059920)*

As seen in the study with *hand*, *touch* stands for God’s power, as God’s powerful actions and miracles on earth are often accomplished through his hands. By touching, God has the power to make miracles and positive actions (see the adjective “restoring” in example (8) above). In this example, *touch* refers to miracles or positive things that are the result of touching. God’s hand is the symbol of power, and all the positive actions are accomplished through God’s hand.

2.11.2.2 *Touch as a characteristic of an object*

This is quite a common type of metonymy on *touch* that appears in compound as an adjective (12 out of 31 metonymic occurrences), as in the following example:

- (2) *The blinds can be fitted on to a wooden batten with **touch-and-close** fastener for easy removal...* (Corpus: 148, BNC_Written.txt at position 655655)

A touch-and-close fastener is a device that fastens (something or things) by touching, sticking and thus closing one of its parts onto the other. In (2), “touch and close” refers to the type of fasteners needed to fix something or things, that is, to fix the blinds onto a “wooden batten”. This type of fastener is then represented by the action or gesture one does when fastening something with this type of fastener. The manner of fastening by touching/putting two elements into contact is the characteristic that distinguishes this type of fastener from other types of fasteners, and hence this example reflects the MANNER FOR OBJECT metonymy.

This metonymy calls up a mental image of a concrete scene of fastening by touching/sticking one part of the fastener on to the other part to close it. It is an “active” way of conceptualizing objects in language.

2.11.2.3 *Touch as a focused stage of an act*

As seen in the previous corpus-based analyses, *touch* focuses on a stage or step of an act with this type of metonymy, which is the mostly used in the corpus (16 out of 31 metonymic occurrences). Let us first examine the example below:

- (3) *"For God's sake, there's nothing to have your nose rubbed in! Julie's just a friend. I haven't touched her!" "You didn't have to, she **was touching** you," Fiona said, voice quiet, looking away from Fergus, out to the darkness of the loch. (Corpus: 139, BNC_Written.txt at position 5813467)*

In (3), even if *touch* implies “physical” contact with the hand or a part of the body, as in the literal sense of *touch*, other semantic features are, however, implicitly added.” First, having physical contact with somebody is feeling love for somebody. Indeed, “be just a friend” implies “not touch”. *Touch* thus infers “be intimate,” feelings of love being more or less strong according to the context. Indeed, if *touch* infers “feeling love”, *touch* has a metonymic meaning, in which touching somebody would be a consequence of feeling love for this person and being intimate with her. This example could therefore represent RESULT FOR PROCESS metonymy, in which the act of touching someone is the consequence of intimacy. Second, in the sense of (3), *touch* implies a “continuous” physical contact, that is, physical contact for a certain amount of time (see the use of BE + -ING, which conveys this idea of continuity of the action), and not just a “superficial” contact, as often suggested with *touch*, contrary to *manipulate* for instance.

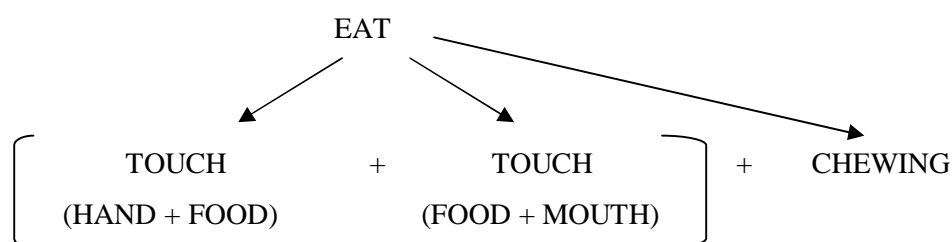
- (4) *On the half-hour, however, Stortford scored an opportunist try when winger Ridgewell intercepted a pass from Cummings to his centre and **touch**ed down between the posts.* (Corpus: 178, BNC_Written.txt at position 437982)

In this example, *touch* appears in the rugby context and the action of “touching down” consists of scoring “by putting the ball down on the ground behind the opposing team’s goal line” (Longman Dictionary). Hence, scoring is conceptualized as the manner that leads to it. Indeed, scoring implies that the player puts the ball that he is holding in his hands down on the ground, so that the ball touches the ground. This use of *touch* can thus reflect the MANNER FOR ACTION conceptual metonymy in which scoring represents the target action and *touch* the manner by which the action of scoring can occur. The manner by which scoring is obtained is then in focus, so that the player’s putting the ball down the ground can be mentally visualized when scoring takes place.

Metonymies are quite common in the context of sports in general, and the action is often conceptualized as one of the salient elements that is linked to it, these latter being part of the mental image enabling to “put language in motion,” as if playing oneself when talking or writing.

- (5) *He never spoke. Perhaps he had forgotten how to speak. He wouldn't touch food or water.* (Corpus: 143, BNC_Written.txt at position 5431211)

In (5), the act of “touching” does not literally consist of putting his hands into contact with the “food” or “water”, but rather “eat” and “drink” respectively. However, *touch* between “the food” and the “mouth” by the direct or indirect means of the hands is a necessary first step for the action of eating to occur. There is direct contact between the hand(s) and the food, if the hand(s) is (are) the direct means of “putting food into the mouth,” but it (they) is usually an indirect means, as food are put into the mouth by the intermediary of a fork, for instance. Eating thus implies two “zones of contact:” the hands (as a direct or indirect means) with the food first, and the food and the mouth second. Below is the schematic semantic structure of EAT:



These first two steps of “touching” are like “automatic” pre-action gestures that are necessary for “eating” to occur. Three phases will be present:

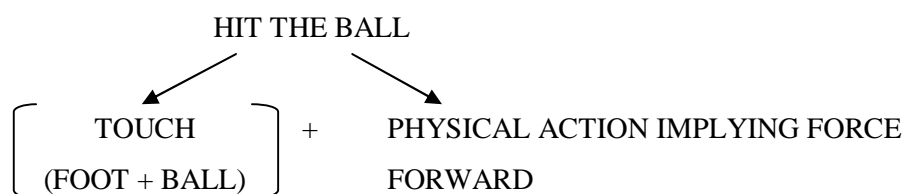
- Pre-action: contact between hands and food; contact between food and mouth
- Action: chewing
- Result: food is swallowed

This use of *touch* represents the “GESTURE FOR ACTION” metonymy in which the necessary preliminary/pre-action gestures with *touch* represents the action “eat.” With this metonymy, the mental image of someone eating is focalized onto the pre-action gestures *touch* instead of the main action “chewing.”

Below are examples, in which *touch* is a noun:

- (6) *Instead, they snatched extra time in the 80th minute when Cork got a touch onto Glyn Hodges' cross and as a defender attempted to clear, the ball was driven against Ward and back past a helpless Mimms. Corpus: 145, BNC_Written.txt at position 485053)*
- (7) *For once, Steve Titcombe and Mark Hett saw precious little action out on the wings but full-back Dyble was outstanding when joining the line and fly-half Nick Gregory was a master at finding touch. (Corpus: 192, BNC_Written.txt at position 354324)*
- (8) *Hendrie fired across the face of goal and Wilkinson, sprinting towards the far post, was unable to get the vital touch. (Corpus: 176, BNC_Written.txt at position 246837)*

In these three examples above, *touch* consists of “hitting” or “kicking” the ball. As in (5), the action of “kicking the ball” implies a preliminary “automatic” movement towards the ball; consequently, a “touching” zone, or physical zone of contact with the ball is created, so that foot and ball are in contact. Once foot and object are in contact, the action itself, that is, the physical movement denoting physical force forward, can occur. Below is the schematic semantic structure:



The three phases—see also in (5) are present:

- Pre-action: contact between foot and ball
- Action: kick (physical force forward)
- Result: (depending on the context): maybe goal-scoring in (8)

Touch is visible in the syntactic structure, but not always visible in the semantic meaning of the expression it stands for. Schematic semantic structures enable one to “dis-cover” this invisible semantic meaning “thrown out” by the mind.

Let us now analyze the examples with “untouched” below:

(9) *Contrary to speculation, the house has not been lent out to a public exhibition since 1925, but remains where it was designed to stand, the only completely **untouched** Lutyens house in existence, a permanent record of a way of life between the wars. (Corpus: 168, BNC_Written.txt at position 2970979)*

(10) *A bonus payment for investments left **untouched** for a year is on offer from Birmingham Midhires Building Society. (Corpus: 159, BNC_Written.txt at position 1458462)*

The adjective “untouched” is composed of the prefix UN-, the verb root TOUCH and the past particle suffix –ED.

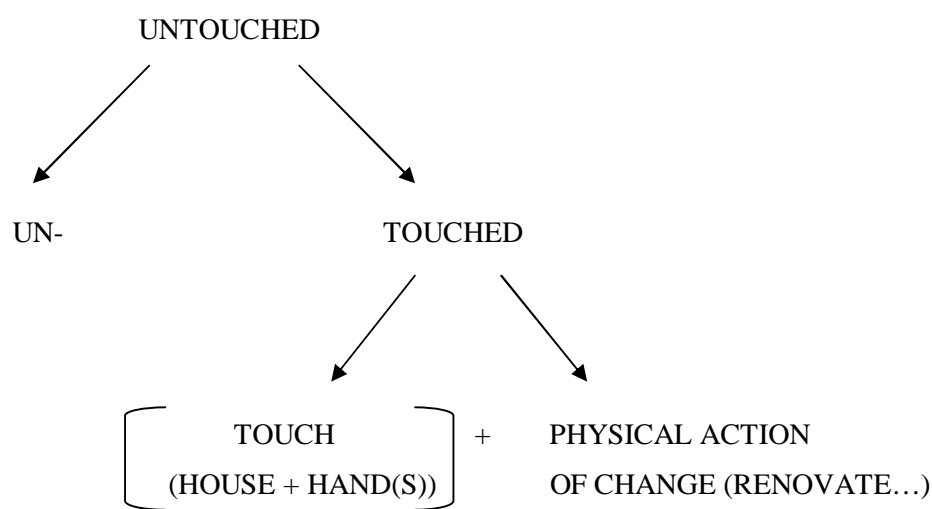
The use of the prefix “UN-” with *touch* indicates that no “contact” occurs with the object. In (16), the object concerned by the absence of contact is a physical concrete object (“a house”) with physical properties, while in (10), it is an abstract object (“investments”). Here again, we do not expect a literal contact with the hand and the object in the target act. In this context, we expect that the lending out of the house to a public exhibition implied some renovation of the house, so that the exhibition could take place. The renovation of the house deals with a “physical” act of change, with an obvious preliminary contact between the house and the hands that are the direct or indirect means by which the act of renovating could occur. Hence, as in (5) to (8), physical contact with elements of the house and the hands is implicit if the target act of renovating is performed, and is visible in syntax with the use of *touch*. With the prefix UN-, there is just the negation of physical contact:

The suffix –ED here connotes patientivity, as does the suffix –ABLE, but conveys a different meaning according to the transitive or intransitive status of the verbal root with which it is associated:

- when the verbal root is transitive, it conveys a more dynamic sense and can be paraphrased by “affected by the action denoted by the verb root” and takes the form of “^{transitive} V + -ED”.

- when the verbal root is intransitive, it conveys a more static sense and can be paraphrased by “seen in the state denoted by the verbal root” and takes the form of “_{intransitive} V + -ED”.

“Untouched” is derived from the transitive verb “to touch”: the suffix –ED is passivized, and implies the presence of an agent responsible for the action denoted by the verbal root. Furthermore, the negative prefix “UN-” is also associated with the verbal root, so that the performance of the action denoted by the verbal root is negated.



In (10), *touch* has not been considered metonymic, as no physical contact is implied. The object is abstract, so no physical properties of the object are found, and so, no physical contact occurs. Thus, in this example, *touch* has no “physical” sense and is used metaphorically to designate more “abstract” type of contact. This will be dealt with in the following part about metaphor.

Let us now examine the following example:

(11) *The sickening feel of woollen gloves being pulled onto your hands and hitting and blunting your fingertips so **touch** was lost.* (Corpus: 195, BNC_Written.txt at position 3727436)

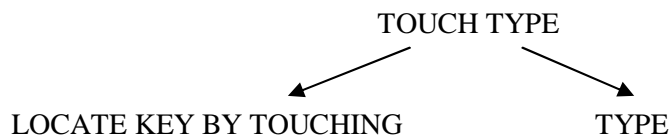
Touch here refers to the physical sensation provoked by the direct contact of the hands with the object when touching. When putting on gloves, this direct contact between the hands, particularly the fingertips, and the object does not occur (see “hitting and blunting your fingertips”). It therefore illustrates a metonymic use of *touch*, as the physical sensation felt is the result of touching. As this

physical sensation results from the action of “touching”, *touch* represents the ACTION FOR RESULT conceptual metonymy.

Consider now the example below:

(12) *The local Evening Institute, at a reasonable price, offered to teach anyone who asked, **touch** typing.* (Corpus: 167, BNC_Written.txt at position 2731120)

In (12), “touch typing” involves typing without looking at the keys. *Touch* is thus used to locate the keys on the keyboard. *Touch* is the means by which keys can be located, and locating the key will be the first step to perform the action of typing:



Kinesthetic sense, that is, ability to sense body position and the movement of muscles, tendons, and joints is used rather than vision, so that typing is achieved. By movements of fingers and arms, space can be mastered. According to the Encyclopaedia of Psychology (<http://www.enotes.com/gale-psychology-encyclopedia/kinesthetic-sense>), this can be explained by the following:

Postural and movement information are communicated via sensory systems by tension and compression of muscles in the body. Even when the body remains stationary, the kinesthetic sense can monitor its position. Humans possess three specialized types of neurons responsive to touch and stretching that help keep track of body movement and position.

Touching represents the means that enables one to locate the key. It would thus reflect the “MEANS FOR ACTION” conceptual metonymy.

In all these metonymies, a mental image of a concrete scene is illustrated and the salient components parts of this concrete scene are the “visible” elements that appear in language. Visible syntax structure enables the comprehension of “invisible” semantic meaning.

This invisible semantic meaning that is brought to light in syntax is found in metaphors as well.

2.11.3 Metaphoric use

2.11.3.1 *The haptic metaphor*

As seen in the previous corpus-based analysis on *hand* and *handle*, target elements are conceptualized as elements involved in active touch, in which touch and motion are two important elements that lead to goal achievement. This type of metaphor is the most commonly used in the corpus (36 occurrences out of 51 metaphoric examples; see appendix 11), but the target element is conceptualized differently according to the intended goal.

- Touch and knowledge

The act of touching is primarily viewed as a way to achieve “knowledge” (21 occurrences out of 51 examples), as in the examples below:

(13) *"I'm sorry you think what you do about Julie. As I have tried to tell you, she was the wife of an old friend and I've kept in **touch** since she got divorced —"*(Corpus: 194, BNC_Written.txt at position 5809786)

(14) *"Never mind," said Dad. "Now you have a friend here you can **keep in touch** with the island. One day you may come back to see Victoria, and perhaps she could visit us in England!"* (Corpus: BNC_Written.txt at position 516176)

(15) *First, the news will be there when our audience wants it – to cover major events when they happen -- or give an up-date on whatever is new that hour. People now expect **to be in touch** when they want. Our research shows that. I believe many people increasingly want their news when it is convenient for them --* (Corpus: 179, BNC_Written.txt at position 1269254)

In these examples, “physical” contact is mapped onto more abstract contact. In (13), for instance, hearing about somebody and maintaining some relationships with him/her is conceptualized as physically touching him/her. When touching an object, physical contact between the object and the

hand allows the person who “touches” it to have some “physical” interaction with it. In (14), maintaining contact with the island, that is, hearing about people who live there, and knowing about what happens in the place, is also conceptualized as physically touching these people or this place. In (15), “touching” means being informed, that is, knowing about what happens. Consequently, even when referring to different types of objects—a person in (13), a place in (14) and an abstract entity in (15), knowledge is conceptualized as “physical” contact, so that *touch* reflects the “KNOWING IS TOUCHING” conceptual metaphor. *Touch* can indeed be extended and paraphrased by “know about” in all these examples. It also refers to the CLOSE RELATIONSHIP IS PHYSICAL PROXIMITY conceptual metaphor, as something that is familiar to us or something/someone we like is conceptualized as something/someone that can be touched or that is part of the physical contact zone of the hand (space that can be reached by the hand).

Example (16) conveys the opposite meaning of “in touch:”

(16) *The Democratic Party chairman, Mr Ron Brown, said that "there has not been such a decision so out of touch with American values since the sale of arms to the Ayatollah. This is real politik run amok. (Corpus: 175, BNC_Written.txt at position 2512224)*

Something that can be touched is seen as something that is known, as the hand is the means by which physical properties of the object are revealed. Conversely, something that is “out of touch” is something that cannot be touched, something that is not in the contact zone of the hand (space that can be reached by the hand), thus it is something that is unknown. In (16), “out of touch” conveys the idea that the decision is not part of, or is different from the current American values.

- *Touch and attention*

Second, the act of touching confers attention and interest on the object that is touched (10 out of 51 metaphoric occurrences), as in the following examples:

(17) *Above all, Plomer merely touches on the Elizabethan cadence and diction. His text hints at the periods and utterances of Gloriana's England, but it quite avoids the "half-timbered". (Corpus: 182, BNC_Written.txt at position 1311402)*

(18) *This exemplifies one of the enigmas of the contemporary art world, and it touches on the problem of what decides our likes and dislikes in art. (Corpus: 142, BNC_Written.txt at position 1116811)*

These examples reflect the “ATTENTION IS TOUCHING” metaphor, in which something that is “touched on”, “talked about”, or “dealt with” is conceptualized as something that is physically touched. Something that is physically touched is something that is under our attention, as it is something that can be of some utility for us, something we deal with at the moment (idea of attention), or something we want to know about (idea of knowledge). If the object is a useful object, an object we deal with at the moment, or an object we are exploring at the moment, our attention will be put/focused on this object. For instance, if a student is seen touching a book in a bookcase, we think that this person is interested in this book, in the sense that this book is of some utility for him. An object that is touched can also be something we deal with at the moment for a particular reason. In the metaphorical use of *touch* in (17) and (18), the touched objects are abstract objects —“Elizabethan cadence and diction” in (17), and “a problem” in (18)—that are dealt with at the moment and put under attention, for any particular reason.

This conceptual metaphor is also found with the simple verb *touch* that has the meaning of “concern” or “deal with”, as in (19):

(19) *In the best organisations, quality should touch every aspect of the business. (Corpus: 160, BNC_Written.txt at position 1909888)*

Consider now the following example:

(20) *In East Germany two men, formerly regarded as untouchable pillars of the old regime, have, rightly or wrongly, become the focus of over-zealous and sometimes bizarre persecution by the legal authorities and an indignant public. (Corpus: 155, BNC_Written.txt at position 2333231)*

The adjective *untouchable* is composed of the prefix UN-, the verb root TOUCH and the adjectival suffix –ABLE.

First, the semantics of the suffix –ABLE is connoted differently according to the transitive or intransitive status of the verbal root with which it is associated:

- when the verbal root is transitive, which is the prototypical verbal root associated with the suffix –ABLE, it connotes patientivity (Hamawand 2011) and can be paraphrased by “capable of undergoing the action denoted by the verb root” —thus taking the form of “capable of being + _{transitive} V + -ED”, as in “doable”, which can be paraphrased by “capable of being done”. The passive use and transitivity of the verbal root imply the presence of an agent responsible for the action denoted by this verbal root, even if the patient is in focus.

Note that when the verbal root is used metonymically, the passive interpretation does not work, as in the examples found in Hamawand (2011: 137):

- (a) a readable book
- (b) an adorable child

These phrases can be paraphrased as follows (my paraphrases):

- (a') a book that is enjoyable so that you can easily read it
- (b') a child that is so charming that you immediately adore him/her

In these cases, the verbal root “read” and “adore” seem to metonymically refer to the consequence of a characteristic of the patient and not these characteristics themselves, these latter being the adjectives “enjoyable” and “charming” respectively.

- when the verbal root is intransitive, which is the peripheral verbal root associated with the suffix –ABLE, it connotes agenthood (Hamawand 2011) and can be paraphrased by “capable of doing the action denoted by the verbal root”—thus taking the form of “capable of + intransitive V + -ING”, as in the example and paraphrase found in Hamawand (2011: 138): “perishable food” which means “food that decays quickly”.

Note that when the verbal root is ambitransitive, the transitive or intransitive context of the verbal root will determine the meaning interpretation. The suffix will thus be paraphrased by “capable of doing or undergoing the action denoted by the verbal root”—thus taking the form of “capable of being + transitive V + -ED” or “capable of + intransitive V + -ING”, as in Hamawand’s example (2011: 137): “adaptable”, which can be paraphrased “capable of adapting” or “capable of being adapted”.

Here, *untouchable* is derived from the transitive verb *to touch*, and the suffix –ABLE can be passivized, which implies the presence of an agent responsible for the action denoted by the verbal root. Furthermore, the negative prefix UN- is also associated with the verbal root, so that the performance of the action denoted by the verbal root is negated. As seen in the corpus-based analysis of *touch*, *untouchable* is here interpreted (a) metaphorically as “legally out of reach” so that both the negative prefix UN- and the suffix –ABLE highlight the impossibility for the agent (here possibly “the legal authorities and an indignant public”) to bring proceedings against the “pillars”. In other contexts, the adjective “untouchable” that is derived from the transitive verb “to touch”, could keep its literal meaning, so that the negative particle UN- would negate the physical contact

with the patient. This NON physical contact would also be a volitional act that would thus highlight (b) the agent’s refusal or unwillingness to touch the (animate or inanimate) patient , (c) somebody else’s refusal to let the agent touch the patient, or (d) the impossibility for the agent to physically touch them—despite the agent’s willingness and effort to do so.

In other contexts as well, the adjective *untouchable* could be derived from the intransitive verb *to touch*, and would have a literal meaning only, so that the negative particle UN- would negate the physical contact with the patient as well, but this NON physical contact would be a NON-volitional act that would highlight (e) the impossibility for the agent to touch the patient—without any role or intervention of the agent.

When derived from the transitive verb *to touch*, *untouchable* can have either a literal or a metaphorical interpretation, and expresses a volitional act of NOT-touching for reasons that need to be identified in the context, and that express degrees of deonticity of the non-touching event. Conversely, when derived from the intransitive verb “to touch”, “untouchable” has only a literal meaning, and expresses a non-volitional act of NOT-touching for a reason that expresses a degree of epistemicity—the impossibility for something to be touched. It cannot have a metaphorical meaning in this case, since this later implies that the agent is volitional (see definition above). The meaning of *untouchable* would thus depend on the interpretation of *touch* as a volitional or non-volitional act. This is made possible due to the ambitransitive status of the verb *to touch*. Indeed, as a transitive verb, *to touch* appears as a volitional act that could explain the deontic status of the (a), (b), (c), and (d) interpretations, while as an intransitive verb, *to touch* appears as a non-volitional act that could explain the epistemic status of the (e) interpretation. However, as a verb, “to touch” is typically transitive, so that we could expect the derived “negative adjective” to typically have a deontic meaning. This is summarized in the table below:

	UN + touch + ABLE	
	Derived from the transitive verb “to touch”	Derived from the intransitive verb “to touch”
Type of subject of the verbal root “touch”	volitional	non volitional
Type of meaning of the verbal root “touch”	literal or metaphorical	literal
Type of modality of UN- + “touch” + - ABLE	root (unwillingness, ban, inability)	epistemic (impossibility)

- Touch and change

The act of touching is finally viewed as a way to achieve change (5 out of 51 metaphoric occurrences), as in the following example:

(21) *A bonus payment for investments left **untouched** for a year is on offer from Birmingham Midhires Building Society.* (Corpus: 159, BNC_Written.txt at position 1458462)

The object in (21) above is abstract, so that no physical properties of the object are found, and no physical contact can occur. *Touch* has no “physical” sense and designates more “abstract” type of contact metaphorically. In (28), the change pertains to the value of the investments that has not changed. Money is conceptualized as a physical object.

In the example below, money is also conceptualized as a physical object and change consists in the money value to be increased to attain a “fixed” value (see idea of passivity with *touch*):

(22) *Only last year the shares **touched** 79p -- the point at which Sugar sold 43m shares and pocketed £34m.* (Corpus: 194, BNC_Written.txt at position 1422455)

The idea of “active touch” is less present here, but the fact that the “fixed” value of “79p” is attained does not mean that share value will not keep increasing, but that the speaker focuses on this value, as if making a freeze frame on it. Indeed, we can see that this value is a point of reference for the speaker, as he makes a comment about it: “the point at which Sugar sold 43m shares and pocketed £34m.”

2.11.3.2 Touch and emotional/mental state

Some occurrences of *touch*- have this metaphoric interpretation in the corpus (10 out of 51 metaphoric occurrences), as in the following examples:

(23) *Anne, who was heart-free despite her sometimes extravagant claims, was surprised to see tears coursing down Joan's face. Her heart **touched** on the instant by her friend's distress, she put an arm through hers and led her back to the palace.* (Corpus: 177, BNC_Written.txt at position 5075390)

(24) *But I have no doubt that all are known to God." And here the pastor paused for his certainty to **touch** his audience and arouse their own. "Perhaps, one day, one of you will attempt something that will merit inclusion in our Book. Who knows?" (Corpus: 180, BNC_Written.txt at position 4879839)*

In (23) and (24), *touch* applies to the domain of “emotions” that can be described as a mental but also physical response to something that we have experienced. Emotions are conceptualized as physical sensation when the body, and more particularly physical body parts, such as the hands, are in contact with an object. The properties of the object (quality of a tissue, for instance, that can appear soft or tough) provoke some physical sensations when touching. Here, touching provokes emotions or feelings, so that this use of *touch* reflects the EMOTION IS PHYSICAL SENSATION and AFFECTING IS TOUCHING conceptual metaphors, in which *touch* is used in the sense of “affect” (see also part 2.4.3.3 “Seize and physical state” in the corpus-based analysis on *seize*). In (23), the object touched is the “heart,” which is the “container” of emotions. The contact between the object “heart” and the abstract subject” ’s distress provoked an emotion. In (24), the contact is between the implicit object “audience’s” heart and the subject “pastor.”

This sense of *touch* is also found with “touching” and “touchingly” as adjective, as below:

(25) *...and was saddened and grieved and distressed by the fact that everybody turned against him at the end. PP: And the duet at the end of the Prologue is a very **touching** moment. (Corpus: 172, BNC_Written.txt at position 1374889)*

(26) *She joined the Old Vic Company (which later was to become the Sadler's Wells Opera) in the 1923-4 season as a member of the chorus. Gifted with a **touchingly** beautiful voice of the lyrico-spin to variety (with that quality described by Italians as *morbidezza*) she became the leading soprano of the company, singing a wide variety of roles... (Corpus: 181, BNC_Written.txt at position 1359790)*

The adjective “touching” is composed of the verbal root TOUCH and the adjectival suffix –ING. Regarding the meaning of the suffix –ING, it conveys two senses according to the transitive or intransitive status of the verbal root with which it is associated:

- when the verbal root is intransitive, the activity denoted by the verbal root is perceived as still being performed, as in Hamawand’s example (2011: 140): “a recurring crisis” is “a crisis which keeps on recurring”. Semantic features are present with this sense of –ING:
 - o the notion of preconstruction, since –ING implies the activity has already been performed or experienced in the past
 - o the notion of time, since –ING implies the activity lasts a certain amount of time

- the notion of subjectivity, since –ING can imply the activity is commented upon by the narrator
- when the verbal root is transitive, -ING is a causative marker; it implies the activity referred to in the verbal root is caused by the underlying subject represented by the following noun. This activity often conveys the emotional state or feelings of the utterer or narrator as a response to the “contact” with this subject, as in the example (31) above found in the corpus. Indeed, the derived adjective “touching” is used in the metaphorical sense of “touch” as “affecting” or “emotionally moving”, so that “a touching moment” can be paraphrased by “a moment that affected me” or “a moment that made me feel moved/touched”.

“Touchingly” is composed of the verbal root TOUCH, the adjectival suffix –ING and the adverbial suffix –LY. It conveys the same meaning as the adjective “touching” (see above).

As an adjective and adverb, *touch* only refers to emotions, and meaning can only be interpreted metaphorically.

Also to be noted is that even with its metaphorical use that pertains to the domain of emotions, a physical response is also expected and emphasized. Thus, emotion is not only a mental response to something, but also an implicit physical one. A physical response to *touch* is both found in the literal/metonymic sense of *touch* that implies a physical contact between an object and the hand, and in the metaphorical sense that pertains to the domain of emotion. Hence, we can wonder what differences there are between these two types of “physical” and “metaphorical” *touch* as seen in the table below:

	Physical	Metaphorical
Cause	physical contact between one object and the hand	metaphorical contact between one object and the heart
Result	Physical sensation provoked → objective: usually the same for everyone	“Mental” sensation”/feeling provoked + physical response corresponding to this feeling → subjective: can be different according to the person

In the metaphorical sense, the physical response that accompanies the feeling is as a visual image of the feeling it represents.

2.11.3.3 Touch and Space metaphor

Below is the only example retrieved from the corpus:

(27) *Thus death has been ever close to me -- so close that it seemed to me at times that I could reach out and touch it. I try therefore to think only of life and youth --I could not speak lightly of death as do you, my lord.*
(Corpus: 133, BNC_Written.txt at position 5070266)

Cycle of life and time passing is referred to in this example, and, all along, time is conceptualized in terms of space, in which an event that is about to occur is seen as physically close to you, as if you can reach it out and touch it (see TIME IS SPACE conceptual metaphor in Lakoff and Johnson 1980).

Furthermore the abstract entity “death” is conceptualized as a physical object that can be reached out and touched, as if it has physical delimitations. To be more precise, death is here personified, so that it conveys power to death.

2.11.3.4 Touch and small quantity

In the examples below, *touch* conveys the idea of a “small quantity of” (4 occurrences out of 51 metaphoric examples):

(28) *The medium carries the paint evenly, so that just a touch of colour can be introduced to the medium to make a transparent glaze layer.* (Corpus: 192, BNC_Written.txt at position 1191240)

(29) *General situation: Parts of Scotland and Northern Ireland will have a touch of frost at first, but most of England and Wales should be frost free. It will be another cold, but largely dry day across the country.*
(Corpus: 195, BNC_Written.txt at position 3871698)

With this metaphor, “physical” contact force with an object and the idea of quantity are mapped together. “Touching” an object involves having a “superficial” and “passive” physical contact with it as a whole, as only one part of the object is concerned (one contact zone) and no movement of the hand(s) is implied. Conversely, *manipulate*, for instance, consists of having a physical “active”

contact with the whole object, as the hands move all over it (more than one contact zones). When using *touch*, the physical interaction between the hand(s) and the object is less prominent, so that the contact force is “light.” This semantic property of the “physical” perception verb is found when talking about small quantity of something. We can thus create the SMALL QUANTITY IS SMALL PHYSICAL CONTACT INTERACTION conceptual metaphor, in which *touch* incorporates the idea of small quantity, due to physical interaction properties of the hand(s) with the object implied by its (their) use. Hence, a scale of “haptic” perception verbs could be created according to the force of contact that occurs between the body parts (especially the hands, with haptic modalities) and the object in contact with them. In this scale, *touch* will be on a lower position than *manipulate*, as the force of contact or the physical interaction between the hand(s) and the object, are not so strong with *touch* as with *manipulate*.

2.11.4 Interaction between metaphor and metonymy

Interaction between metaphor and metonymy is found in a few examples in the corpus (24 occurrences out of 106 conceptual examples) and appears in both single words and multi-word expressions.

2.11.4.1 Metaphor with metonymy

With this type of interaction, both metaphoric and metonymic interpretations of *touch* are retrieved from the target domain (22 occurrences out of 24 mixed cases). In the example below, *touch* appears as a single word and not in a multi-word expression, but with the prefix RE-:

(30) ...but there was a definite risk of lifting small particles of colour as it was taken off and my aim was to minimise the need for *retouching*. It took several layers of slightly thinned gold acrylic paint to get the effect I wanted. (Corpus: 157, BNC_Written.txt at position 1172360)

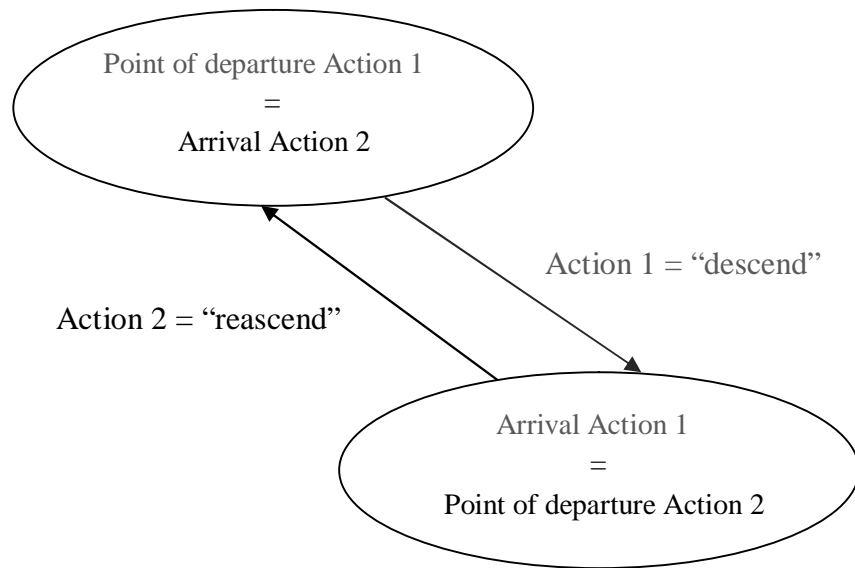
Semantic features of *retouch* seem to be complex, despite the simple syntactic structure of the term, which is composed of the prefix, RE-, and the verb *touch*.

The semantic properties of the prefix, RE-, have long been discussed in the literature (for instance Marchand 1966; Horn 1980; Pesetsky 1985; Wechsler 1989; Keyser and Roeper 1992; Smith 1997; Lieber 2004; Williams 2006). First, Marchand (1969: 189–190), mentioned in Hamawand (2011: 145) describes this prefix as follows:

This prefix is almost only used with transitive verbs, i.e., *re-* does not express mere repetition of an action; it connotes the idea of repetition only with actions connected with an object. And it is with a view to the result of the action performed on an object that *re-* is used. The result of the action is 1) either understood to be imperfect or unattained, and *re-* then denotes repetition with a view to changing or improving the previous inadequate result (as in *rearrange*, *redirect* (a letter), *redistrict AE*, *respell*, *rewrite*)... 2) The result of the action or the former state has come undone, and then *re-* reverses the reversal, restores the previous result or state. Examples of this meaning are *recapture*, *reconvert*, *reimburse*, *reinstate*, *reinvest*, *repossess*, *resole*.

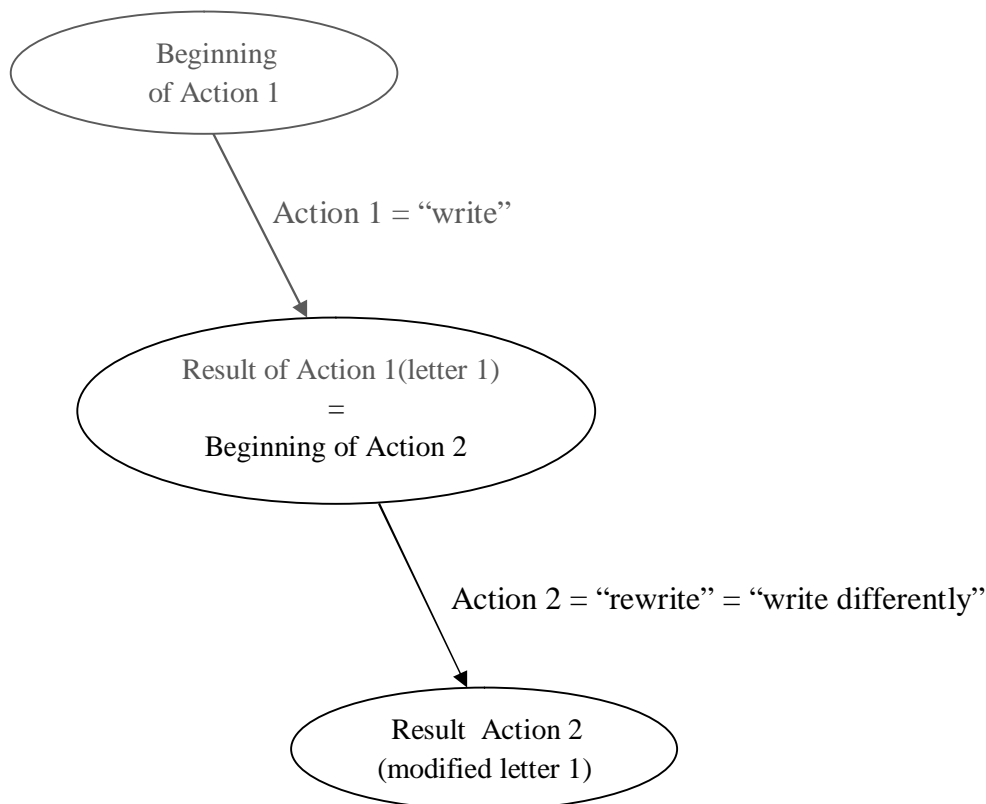
Regarding the types of verbs with which RE- can be associated, Marchand points out, this prefix is usually used with transitive verbs, but it seems that these need to refer to actions whose results or resultant states are changeable or reversible, due to the senses conveyed by the prefix (see these two senses in Marchand above). This explains why RE- can be affixed to verbs such as *use* or *do*, but not to verbs such as *push* or *eat*. Furthermore, it can be affixed to some intransitive inchoative¹² verbs when these refer to actions (Action 2 in the schema below) that reverse previous actions (Action 1 in the schema below), so that the previous point of departure is reattained (Point of departure Action 1/Arrival Action 2 in the schema below). This explains why this affix can be affixed to verbs such as *ascend* or *descend* but not to verbs such as *arrive* or *explode*. Indeed, below are the schematic features of *reascend* for instance:

¹² Inchoative verbs express the beginning of an action.



Regarding the semantic properties of this prefix, according to Marchand's description, RE- would express repetition of the action denoted by the verbal root. Here, repetition conveys two senses:

- iteration (Marchand's definition 1), so that both the previous and repeated actions (Action 1 and Action 2 in the schema below) go in a unilateral direction (see arrows in the schema below). There is a process of change (Action 2) based on (Beginning of Action 2) the result of the previous action (Result of Action 1), so that a new result (Result of Action 2) is created. Below are the schematic features of *rewrite a letter* for instance:



Note that even if the action is “repeated”, Action 1 and Action 2 are not exactly the same, since there is a process of change between the first result and the second one.

- reversal (Marchand’s definition 2), so that both the previous and repeated actions go in a bilateral reversed direction. There is a process of reversal in which Action 2 corresponds to the reversed action of Action 1. The result, or end, of Action 2, and the beginning of Action 1 are the same. (See the schematic features of *reascend* above for instance.)

In example (30) above, *retouch* can be paraphrased by “bring slight change or improvement on” and thus encompasses the notion of change and the notion of small quantity. At this point, we need to figure out which syntactic element carries the meaning of “change” and which one carries the meaning of “small quantity”.

As this point, we might wonder which syntactic element carries the meaning of positive change or improvement. Indeed, as seen in the analysis of “retouch” and “touch up” (see corpus-based analysis of *touch* and in this part), this notion already seems to be conveyed by the semantic feature of the prefix RE- and the one of the adverbial particle UP. Furthermore, the notion of change is

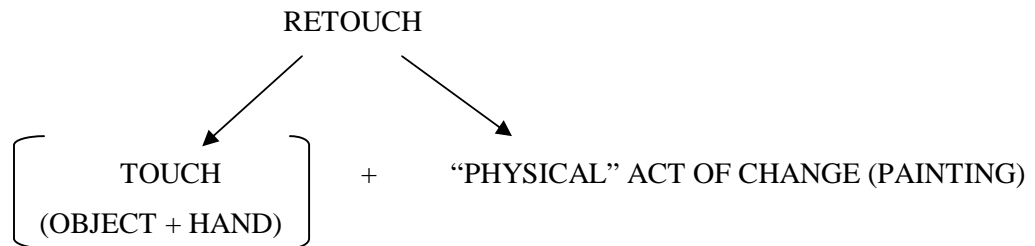
retrieved when *touch* is interpreted conceptually and often is so when used in complex syntactic structures, that is:

- in association with the prefix RE- in “retouch”
- in association with the adverbial particle UP in “touch up”
- in the expression composed of the noun phrase “article + adjective + noun *touch*”, as in “the final touches”, but not in the expressions composed of the noun phrase “a + noun *touch* + of” (quantitative article) and in the one composed of the noun phrase “a + *touch*” (adverb) which only convey the notion of small quantity.
- in negative sentences, such as “*The old farmhouse has hardly been touched by modern trends.*” (example taken from Macmillan Dictionary online, <http://www.macmillandictionary.com/dictionary/british/touch>)

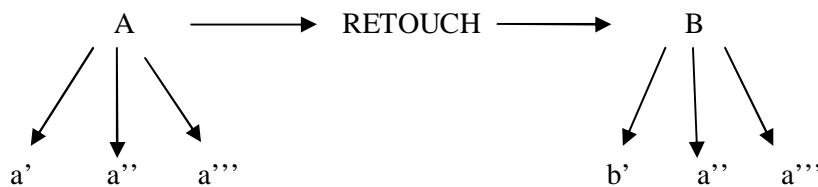
Here, RE- conveys the notion of iteration of the action implied in the context (here the action of painting), and thus the notion of change or improvement. As pointed out by Marchand (see definition above), RE- “denotes repetition in a view of improving” the previous unsatisfactory result. As the notion of positive change is expressed through the prefix RE-, the verbal root “touch” seems to metaphorically convey the notion of small quantity (see metaphorical notion of small quantity with the expression “a touch of” in the corpus-based analysis of *touch*). Indeed, in other instances of affixations of the prefix RE- to verbal roots such as “arrange” or “write”, the idea of small quantity is not present, while the idea of change is. The idea of small quantity seems thus to be carried by *touch*. Hence, the affixation of the prefix RE- to the verbal root *touch* changes the literal interpretation of this latter, which needs to be reinterpreted metaphorically.

One might also note that *retouch* conveys the same meaning as *touch up* (even if the idea of restoration is not present with *touch up*), so that both forms can be compared. While *touch* is present in both forms, the prefix RE- is affixed to the verbal root in the corpus example “retouching”, while the adverbial particle “up” is used with the verb *touch* in *touch up*. As seen in the corpus-based analysis of *push*, we think that adverbial particles used with verbs have their own meaning and thus also modify the meaning of the verb they accompany. In this phrasal verb, *up* seems to metaphorically convey the idea of increases of quality (see also corpus-based analysis of *push*), as found in the idea of improvement which can be defined as “an increase of quality” in the case of *touch up*. In this sense, “up” has a positive connotation that can also be found with the prefix, RE-, in “retouch”.

Furthermore the iteration sense of RE- implies an action to be repeated. However, it does not deal with the action of touching, here, but rather the action of painting (touching with a brush). Thus, retouching deals with paint color retouching. There is a metonymic use of *touch*, as we do not expect the act of painting to take place by simply and literally being in contact with the hands. As in many other examples above, physical” contact is implicit, and is part of the invisible semantic structure of *retouch* in (30):



Only slight properties of an object differ from its former properties. (This idea of change is suggested with one of the senses of *manipulate* as well—see corpus-based analysis on *manipulate*.) Here is the basic schematic semantic structure of retouch:



In this schematic semantic structure, A represents the former state made of properties a', a'' and a'''. B represents the newly modified state made of properties b', a'', and a'''. Only the first property of A has been modified in the newly state B, so that there has been a “slight” change from state A to state B. There is therefore a metaphoric use of *touch* in the idea of small quantity with “slight.”

The same semantic features are retrieved in the examples below, in which *touch* is a noun:

(31) *Once complete, your festive wreath can be hung from any surface and will add the perfect finishing touch to your home at Christmas time the ever-changing garden. (Corpus: 132, BNC_Written.txt at position 80269)*

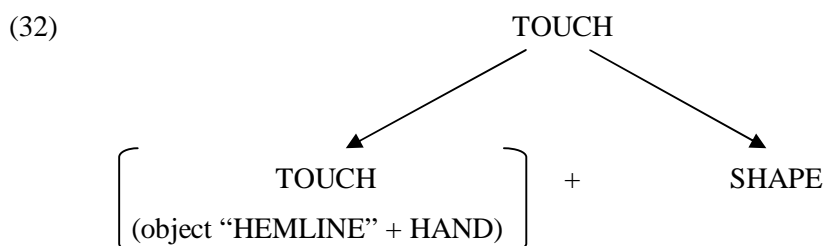
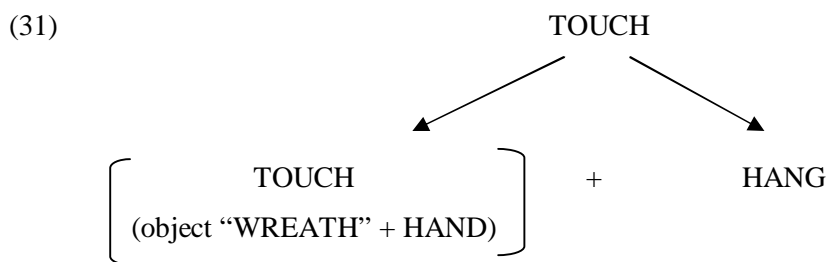
(32) *Roller blinds offer a good deal of scope through colour and fabric combinations, from floral patterns to bold geometric prints. An individual finishing **touch** can come from your choice of shaped hemline, which could be angular, castellated or scalloped.* (Corpus: 183, BNC_Written.txt at position 542595)

In all these examples, *touch* is used as a noun, and is preceded by an adjective, and can be defined as a small detail that improves something in a whole when added to it. Thus, the expression composed of article + adjective + noun *touch* encompasses two important semantic features: the notion of small quantity and the notion of positive change or improvement (see also presence of these two notions in *retouch* in the corpus-based analysis of *touch* and in this part). First, through the ACTION FOR RESULT metonymy, the use of the deverbal noun *touch* shows that the resultant change, denoted by the noun, is profiled while the change process or activity, denoted by the verb, is put in the background. Indeed, the metonymy allows a relevant part of the original actional structure of the verb to be used. Furthermore, in these examples, this process or activity does not literally refer to the act of *touching*, but more to the physical act of “hanging (the festive wreath)” in (31) and “shaping (the hemline/hemlines)” in (32) and (30) for instance, so that the real activity or change process is generalized with *touch*, since the literal act of touching or having a contact with an object is a necessary step to perform more complex activities. At this point, *touch* can be interpreted in two ways:

- it reflects the PART FOR WHOLE metonymy, since it designates a part of the activity of shaping or hanging, and thus stands for the whole activity itself.
- it reflects the GENERIC FOR SPECIFIC metonymy, since the process of change denoted by action verbs such as *hang* in (31) or *shape* in (32) and (30) is generalized. Indeed, *touch* describes different activities, and only specific context, like the ones in (30), (31) and (32), may provide us with the specific information that allows us to specify the activities in question.

The first interpretation is preferred, that is, the PART FOR WHOLE metonymy, since *touch* does not really substitute the more specific action verbs “hang” and “shape”, but rather represents a necessary act that needs to occur before more complex activities can be performed.

Below are the schematic semantic structures of *touch* in (31) and (32) that explain the metonymic interpretation:



In (31), the result of the change is explicit with “ the ever-changing garden.” The adjective “finishing” before “touch” highlights the fact that the change is small, as it seems to be unnecessary or non obligatory, as the modal “can” exemplifies. Other examples of slight change are retrieved from the corpus:

(33) *Surprise jump in output gives Budget boost stronger-than-expected factory production revealed yesterday provided another ray of hope for Chancellor Norman Lamont as he put the final touches to the Budget.* (Corpus: 184, BNC_Written.txt at position 3928707)

(34) *Individual touches can be added by shaping the hemline, or by binding the top and bottom edges with fabric in a contrasting or toning colour.* (Corpus: 166, BNC_Written.txt at position 632702)

(35) *Now, with the help of his expert advice, you too can achieve the professional touch.* (Corpus: 162, BNC_Written.txt at position 230134)

(36) *Shaped hemlines are just one way to add a decorative touch. Plain fabrics can be decorated, for instance, with appliqué, or rows of contrasting ribbon.* (Corpus: 153, BNC_Written.txt at position 650240)

2.11.4.2 Metaphor from metonymy

As seen in the previous corpus-based analysis on *hand*, this type of interaction is considered “metaphor based on metonymy” (my term), in which the metonymy is retrieved from the source

domain, while the metaphor is retrieved from the target one. In the first example below, *touch* is used in the multi-word expression “not touch with a bargepole”:

(37) *Wave yu hands Bowy*
Show yu teeth
Strut dat funky ting
Sing Bowy, sing.
*Boss won't **touch** yu*
Wid a barge pole (Corpus: BNC_Written.txt at position 5317488)

The informal idiom “not touch with a bargepole” means “refuse to be involved in something/with somebody” or “refuse to be in touch with somebody, even indirectly, at a great distance.” To understand how this expression is structured and how it can be interpreted, one must first understand the possible origins of this expression, and what the literal sense of this phrase could mean.

First, the barge pole is a very long wooden bar that is used to push a barge. The interesting thing with a barge pole is that it is very long. In fact, the American counterpart is “not touch with a ten-foot pole”, the length of the pole being highlighted with “ten-foot”. Before, when something unknown or suspicious appears to be floating in the water, a barge pole could also be used as a way to find out what it was. A thing floating in the water could appear suspicious or unknown first because it was out of touch, that is, at a long distance, so that it cannot be identified, or second, because it was not recognizable at first sight, so that it needed to be physically touched to identify it. Thus, something that you want to know about is put closer to you, so that you can touch it and “discover” it. Another interpretation is that something that appears to be suspicious could be safely touched by the intermediary of a barge pole or of a very long object, rather than being directly in contact with the hands or body in general. The closer something suspicious is, the more dangerous it is. Hence, the use of the expression seems first to illustrate the GESTURE FOR CAUSE metonymy, in which the gesture or action of touching something with a bargepole is mapped onto the cause of this gesture, that is, when you want to know about an object floating in the water that is far away from you or suspicious. Hence, not touching something with a bargepole would imply refusing to deal with or interact with this object. In the context, however, it does not deal with the nautical domain but with relationships between two persons. This expression thus also reflects a conceptual metaphor, in which the domain of relationships between people is conceptualized as the domain of nautics. The metonymy explains what the metaphor conveys, that is, the idea that close

relationship is physical proximity, and thus, far-off relationship is physical distance. When refusing to touch someone with a barge pole, it means that you do not want to know about him/her, that is, you do not want to be close to him/her because of some implicit reasons". It could mean that this person is not worth being known or in touch with, for particular "negative" reasons. It could also mean that the person is too "suspicious" to be in contact with. If we take into account the last interpretation of the literal sense of the phrase, something suspicious is not worth to be touched with a barge pole, in the sense that a barge pole will not be far away enough from us to feel safe.

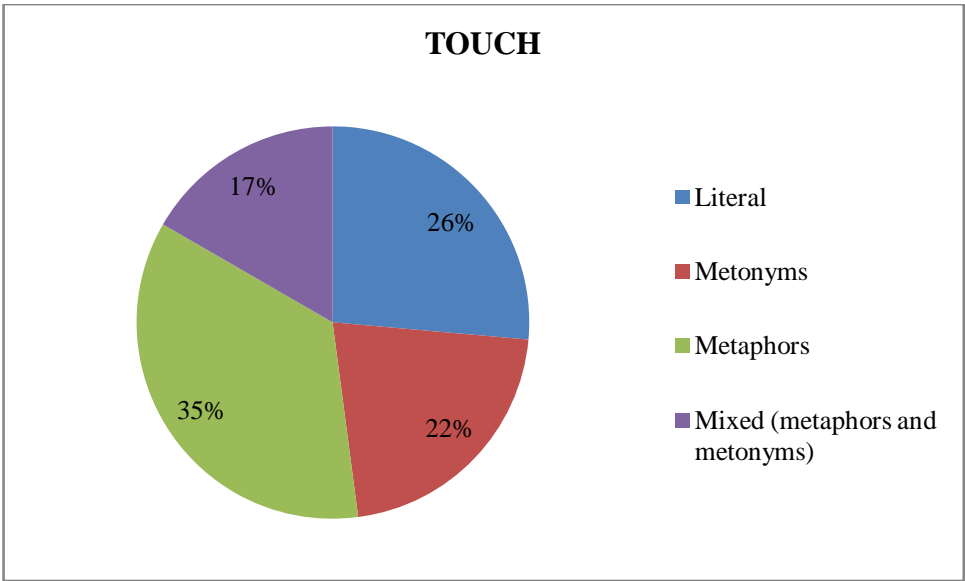
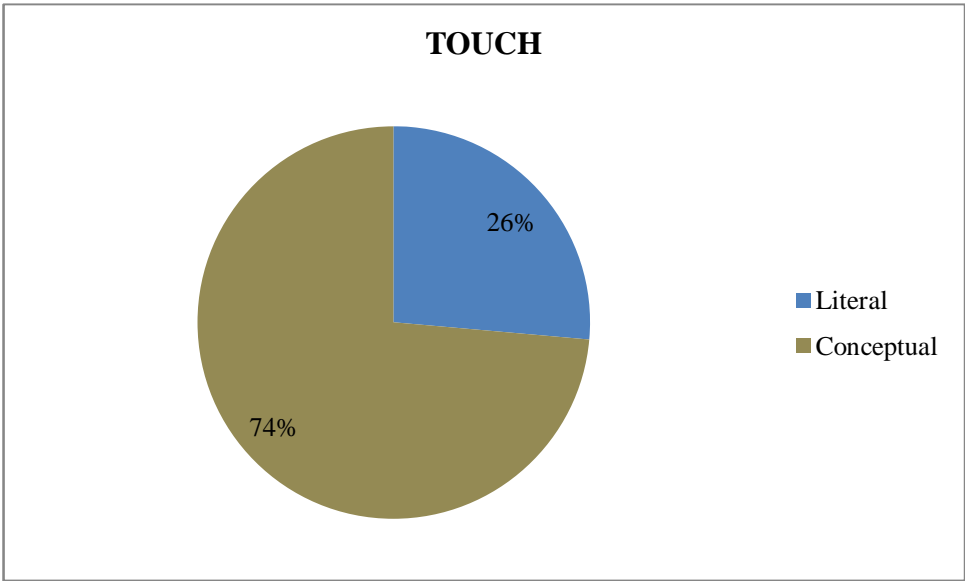
The second and last example of this metaphorical and metonymical sense of *touch* is found in the idiom "be touched by the sun" below:

(38) *Then Joseph proposed. I was alarmed. I was alone on a mountain with an unpredictable and completely un-Yorkshire person who appeared to have been touched by the sun. I declined. I didn't know him well enough, I mumbled. I hoped it wouldn't hurt his feelings. (Corpus: 176, BNC_Written.txt at position 3374476)*

The idiom means "be mad" and deals with mental properties of a person. However, "being touched by the sun" suggests a physical interaction between the object, a person (and especially a person's body), and the sun. We do not expect the sun to be directly in contact with a person, but it can be considered as a type of object from which we can interact physically, even if it does not have physical delimitations, as it is the case for substances. Indeed, even if the sun is far away from us, sun rays are physically felt/sensed. When physically having been "touched by the sun," a physical response is expected, such as a headache, or dizziness. This physical response implies you are not in a normal physical state, or that you are "physically" negatively affected. In this context, the speaker is interested in the consequence of the process "be touched by the sun", that is, in the response such a process can entail, and therefore first illustrates the PROCESS FOR RESULT metonymy. However, in the context, it deals with a mental response (madness) and not a physical one. This idiom is then used metaphorically and the physical result of the process, "be touched by the sun", is mapped onto a mental state. The subject "un-Yorkshire person's" affected mental state is conceptualized as an affected physical state that occurs after having been touched by the sun. Hence, it reflects the "MENTAL STATE IS PHYSICAL STATE" conceptual metaphor, in which mental reaction is seen as physical one. With the use of the metaphor, the speaker highlights the fact that the character is mentally affected and that he/she is not in a normal mental state.

2.11.5 Table of results: written BNC Corpus on Touch

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	38	4	34	0	0	0	0	0
Metonyms	31	12	6	13	0	0	0	0
Metaphors	51	25	14	11	1	0	0	0
Mixed	24							
Metaphors from metonyms	2	0	0	0	0	0	2	0
Metaphors within metonyms	0							
Others	22	22	0	0	0	0	0	0
Total	144	63	54	24	1	0	2	0



2.12 Push

2.12.1 Literal meaning

2.12.1.1 Making something/someone move by using physical force with the body

This first literal sense of *push* is the one most commonly employed in the corpus (59 occurrences out of 64 literal cases; see appendix 12). It consists of making somebody/ something move by the means of the hand(s) or part of the body. It is therefore a causative verb, that is, a verb that refers to a process that causes another process to take place. At this point, it is important to note that in linguistics, *push* is considered a “manner” or “dynamic” verb, that is, a verb that focuses on the cause or agentive force that leads to the result rather than the resultant change itself. According to the first literal sense proposed above, *push* would focus on the cause “make”, rather than on the result “move”. According to the context, however, other semantic features need to be taken into account. Examples will be analyzed according to these semantic features.

A) Number of participants

First, the number of participants involved in the pushing event is important for semantic interpretation. Consider the following examples:

- (1) ...Two pull and **push** a cart piled with props and belongings. (Corpus: BNC_Written.txt at position 5463969)
- (2) Again there were about 30 soldiers. Some used electric sticks, some beat us over the head with handcuffs, some kicked us, some pulled and **pushed** us, some beat us with rifles. (Corpus: BNC_Written.txt at position 1996375)
- (3) The train came towards them, and the noise got louder and louder. Then it was screaming past, and they could feel the hot air and smell the smoke. They **pushed** themselves flat against the tunnel wall. (Corpus: BNC_Written.txt at position 5390492)

In (1), the agents, “two”, put pressure on the inanimate patient, “cart”, by the means of their hands to make it move; two participants are thus involved in the pushing event. In (2), there are still two

participants involved, but this time, the patient “us” is animate and refers to persons instead of concrete objects. In (3), the agent “they” that “put pressure” on themselves by the means of their body as a whole. As we will see, this first semantic feature contributes to different semantic interpretations between examples, whose basic meanings are the same.

B) Contact implied in the act of pushing

This semantic feature depends on the first, that is, on the number of participants. Indeed, in (1) and (2), a zone of contact is identified, since the agent needs to touch one part of the patient to make it move. Conversely, in (3), pressure is put on the agent’s own body, so that no contact from an “outside” entity is implied, nor needed for motion to occur.

C) Force direction

In some cases, the manner or the force direction of the pushing act is explicit in the context. This occurs when *push* is a phrasal verb (16 occurrences out of 60 literal examples of this first sense in the corpus), since the adverb that follows the verb *push* explicitly indicates the force direction of the agent when pushing, as in the following examples:

(4) And he **pushes** the blade in up to the hilt. (Corpus: BNC_Written.txt at position 5582111)

(5) This force was applied by those long, black-nyloned legs, and though most of the pressure was provided by her left limb, some residual effort **pushed** her right foot down as well, and on each occasion we speeded up, just momentarily, as her amply-soled Doc Marten pressed against the accelerator. (Corpus: BNC_Written.txt at position 5593056)

(6) He **pushed** her away with his left hand, back into her seat. (Corpus: BNC_Written.txt at position 5808355)

In the three examples above, the adverbs, “in”, “down”, and “away”, indicate the direction followed by the agent’s force. Note that adverbs highlight the agents’ force direction, and not the patient’s movement direction, as shown in (4), for instance, in which the final destination or the effect

following the pushing event is not specified. Hence, adverbs give more information about the pushing event.

D) Movement direction

According to the context, motion of the patient cannot be described in the same way, and the patient moves in different “directions” in space. When *push* is a simple verb (18 occurrences out of 60 literal examples of this sense in the corpus), movement of the patient is implicit and needs to be interpreted according to the situation. Conversely, when *push* is a prepositional verb (24 out of 60 literal occurrences of this sense in the corpus), the preposition that follows the verb *push* explicitly indicates the movement direction of the patient. Movement directions are the following:

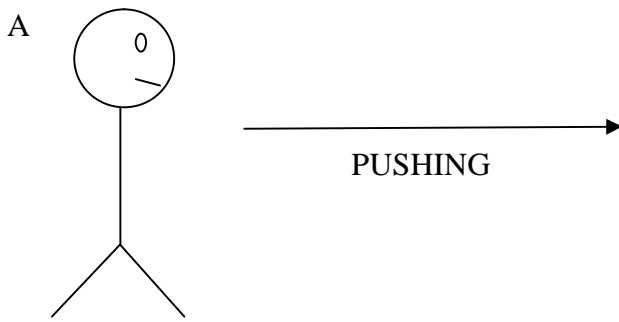
a. forward movement or movement away from the agent’s body

This type of movement occurs in contexts in which *push* is a simple verb or prepositional verb followed by the preposition “forward”, and in which two participants are involved. The resultant event is described by forward motion of the patient, that is, motion away from the agent’s position in space, as in (1) and (2) above, and in the following example, in which the act of pushing consists in putting pressure forward on the door to make it open:

(7) *Hoo-Woo **pushed** open a door in the wall and we went through.* (Corpus: *BNC_Written.txt* at position 5419537)

In (7), since there is only one participant involved, the resultant act implies the agent-patient to move forward from their own previous position.

Below is a schema that summarizes the movement direction taken by the patient (see arrow direction) according to the agent’s position (A representing the agent):



In examples (1), (2) and (7), the agent’s hands, which are the means by which the act of pushing can occur, are extended forward as well, as they are the force that drives the patient in the forward direction.

- b. any other movement direction indicated by the preposition that precedes the noun phrase that represents the final destination or effect of the pushing event, as in the following examples:

- (8) *"I thought I was going to miss you!" she shouted, and **pushed** a letter into his hand, through the window, as the train moved away. (Corpus: BNC_Written.txt at position 5364197)*
- (9) *...she **pushed** the jug of lemonade towards Elisabeth and waited for her to speak. (Corpus: BNC_Written.txt at position 4953038)*
- (10) *The Colonel did not stop to reassure his wife, but rose neatly, **pushed** his chair under his table. (Corpus: BNC_Written.txt at position 4865916)*

In the three examples above, the prepositions “into”, “towards” and “under” indicate the direction followed by the patient, as a result of the act of pushing. In (8), note that the gesture for ‘giving’ is indicated, in which the patient moves from one position to another (“his hand”), and ,at the same time, from one owner to the other, by the act of pushing. “Into” is formed by the prepositions “IN + TO” that convey the idea of motion or change of position with “TO”, and the idea of final destination or final position with “IN”.

Furthermore, note that prepositions highlight the patient’s movement direction, as shown in examples (8), (9) and (10) above, for instance, in which the noun phrases, “his hand”, “the jug of lemonade”, and “his chair”, which represent the final destinations or the effects, directly follow the prepositions, with which they form a prepositional phrase. Thus, prepositions give more information about the resultant event.

E) Force and movement typology

Two types of movement are identified, and depend on the force the agent exerts on the patient:

- a. continuous force and movement: the agent (also called “agonist” by Talmy, 1988) puts pressure on the patient (also called “antagonist” by Talmy, 1988) for a certain amount of time, so that motion of the patient is “progressive” and slow. This implies that contact between agent and patient “lasts” for a certain amount of time as well.
- b. punctual force and movement: the agent’s force can be described by a unique and punctual gesture that usually requires more violence, so that motion of the patient is immediate and sudden.

For instance, in (1), force that gives direction to the movement, also called “force vector” (Talmy 1988), is continuous. The agent puts pressure on a part of the patient, “cart”, for a certain amount of time to make it move to a final destination that is unexpressed in the context. It is the same for (7), (9), and (10), even if the agent’s force is not exerted for as much time as in (1). Indeed, note the spatio-temporal contiguity between the pushing and opening events in (7) thanks to the syntactic structure of the sentence, in which the infinitive “open” that represents the resultant event, directly follows the causing event “push” without any syntactic element in between.

In (2), (3), and (8), the agent’s force seems to be characterized by a punctual and unique gesture made in a more violent—in (2)—or decided—in (8)— manner, so that motion of the patient, that is, “us” in (2), “themselves” in (3), and “letter” in (8), is immediate. However, the agent’s type of gesture may vary according to the situation.

Indeed, in (2), for example, the agent, “soldiers”, could make *a series of* punctual gestures instead of *only one*, so that the patient would make *a series of* immediate and sudden movements instead of *only one*. In such a case, the agent’s type of gesture and patient’s type of motion would remain punctual, but would be characterized by a *succession* or *series of* the same gestures and movements. Alternatively, in a context such as the one in (2), the agent’s gesture and patient’s motion/movement could be considered continuous, if the pushing act were done purposely to achieve a goal, that is, to reach a final destination that is far away enough from the contact zone of the body. Consider the following example, in which the final destination to reach, thanks to the act of pushing, is explicit in the context:

(11) *He shouted angrily in a voice that sounded American, but the hijacker hit him and then **pushed** him to the front of the plane with his machine gun. (Corpus: BNC_Written.txt at position 5987594)*

In the example above, the preposition “to” introduces the final destination to reach, that is, “the front of the plane”. Furthermore, a continuous contact between the patient’s part of their body, like their back, and the hijacker’s machine gun is implied until the final destination is reached. However, this interpretation is valid only if the final destination is far enough away from the patient’s immediate contact zone. Indeed, a continuous type of force and movement would involve making the patient walk, for instance, so that the final destination is reached “progressively”, and not immediately, by a sudden movement.

In (3), the syntactic structure and the context help to transmit the idea of immediacy and urgency, so that a punctual interpretation is preferred. (See the result that immediately follows the causing event with “pushed themselves flat”, and the context with “The train came towards them, and the noise got louder and louder. Then it was screaming past, and they could feel the hot air and smell the smoke.”)

In (8), the ‘giving’ gesture with “push” is interpreted as punctual, since it occurs “through the window” (no motion of the agent implied).

F) Force connotation

The agent’s force or the act of pushing can be connoted negatively or considered neutral according to the context. This semantic feature seems to depend on the previous one, since punctual force appears to be more “violent” and therefore connoted more negatively than continuous force, especially when the patient is animate and distinct from the agent, as in (2) above, and in the following examples:

(12) *There were three soldiers for every nun; they tied our hands and took us to a small room, two soldiers **pushing** each nun. All of us were beaten very severely. (Corpus: BNC_Written.txt at position 1996013)*

(13) *"Get into the car." Someone **pushed** Karen into a big white car. (Corpus: BNC_Written.txt at position 5923738)*

(14) *But Winfield took her arm and pulled her up the stairs. "You're my prisoner," he shouted at her, "and you're not going to leave." Then he **pushed** her into the bathroom and locked the door. (Corpus: BNC_Written.txt at position 5949210)*

In the three examples above, the act of pushing is connoted negatively, since the agent does not allow the patient to move freely, and the immediate context helps understand the patient has no control of their movements (see “tied our hands”, “all of us were beaten very severely” in (12); the imperative form “get” in (13); and “took her arm”, “you’re my prisoner”, “you’re not going to leave”, “locked the door” in (14)). In this case, opposite forces of the agent and the patient are present: the force of the agent who wants to make the patient follow a particular direction on the one hand, and the force of the patient who tends to rest or follow another opposite direction on the other hand (see also force dynamics in Talmy 1988).

However, punctual force may appear to be more sudden because of the sense of immediacy and urgency of the situation, and not necessarily “violent”, as in (8), in which the act of pushing appears to be made in a sudden, hasty, and decided way instead of a violent way, since the train is about to leave, and thus, the agent has little time to put the letter into the other person’s hand.

Conversely, the agent’s force can be considered neutral, when no violence is intended, that is, when there is no opposing force between the agent and the patient. In this case, the agent makes the patient follow the direction they want the patient to follow by pushing, as in example (7). Continuous force usually appears to be neutral, especially when the patient is inanimate, as in (1). Indeed, an inanimate patient has no control of its movement.

However, the agent’s force may require “violence” or energy, if the inanimate patient does not move in the desired direction. The agent still exerts a continuous force, but in a more violent way. Opposite forces of the agent and patient would then be present, but, contrary to the previous case, in which the reluctance to move is voluntary, since the patient is animate, resistance is here involuntary, and depends on internal characteristics or properties of the inanimate patient. The force is still considered neutral, as the patient is inanimate, but less neutral than in (7), in which no opposing force was implied. Consider the following example:

(15) *My spaceship landed. I put on a spacesuit, went outside and moved to the big round door. I pulled and **pushed** and hit it. At last something moved and the door opened. (Corpus: BNC_Written.txt at position 5412585)*

In example (15) above, the opening event is not the immediate result of the pushing event, since resistance is found. The patient “door”, which is inanimate, has some internal properties that prevent it from opening right after the pushing event. Agent’s force and patient’s force are thus opposite at the beginning, but agent’s force finally prevails, since the patient “door” opens, that is, since the patient finally follows the direction the agent wanted it to follow.

G) Cause-effect relationships

This semantic feature depends on the forces implied in the pushing event, as discussed above. The relationships between cause and effect may be strongly implicated or not. In (7), for instance, both pushing and opening events are strongly implicated, as they are contiguous in time. The opening event directly follows the pushing event, since the agent, “Hoo Woo”, encounters no opposing force. This is also seen in the syntactic structure of the sentence, in which the verb “open”, which represents the resultant event, directly follows the causal verb “push”. Conversely, in (15), the pushing and opening events are not so strongly implicated as in (7), since the opening event does not directly follow the pushing event, and both are therefore distant in time. Moreover, the agent encounters strong resistance, that is, opposing force from the patient. This is also seen in the syntactic structure of the sentence, in which the verb, “open”, is “far away” from the causal verb, “push”, since there are syntactic elements in between, and the causal and resultant verbs, “push” and “open”, are not part of the same sentence.

H) Patient’s reaction expected or not

In some cases, the pushing act is made to make the patient react to something. The pushing act is not an important act in itself, but is rather an impulse or a stimulus to make the patient do something, as in the following examples:

(16) He **pushed** Harald with his foot. "Search him," he said to the girl. (Corpus: BNC_Written.txt at position 5996198)

(17) Russell asked to ride with Mendez, saying they could talk about things. "Talk," Mendez said. "You can't hear yourself." He **pushed** Russell towards the coach. "Go on. See what it's like." (Corpus: BNC_Written.txt at position 6093588)

In (16), *push* is a simple verb. The pushing act appears to be a brief gesture made by the agent, “he”, by the means of his foot, which is not an efficient means to make the patient move. Indeed, the pushing act itself is only viewed as a stimulus to make the patient react and decide to “search him” and does not imply a change of position of the patient.

In (17), *push* is a prepositional verb. The preposition “towards” that indicates the direction taken by the patient’s motion, shows that the pushing act makes the patient move and change position—contrary to (16). However, the context that follows (see “go on”) shows that the pushing event occurs only to make the patient react and decide to “see what it’s like”.

The literal interpretation of *push* needs to be analyzed in more detail in the following instance:

(18) *This force was applied by those long, black-nyloned legs, and though most of the pressure was provided by her left limb, some residual effort **pushed** her right foot down as well, and on each occasion we speeded up, just momentarily, as her amply-soled Doc Marten pressed against the accelerator. (Corpus: BNC_Written.txt at position 5593056)*

In (18), the pushing event consists of accelerating, that is, exerting force down on the accelerator by the means of the right foot. Regarding some semantic features of *push* in this context, the following remarks can be done:

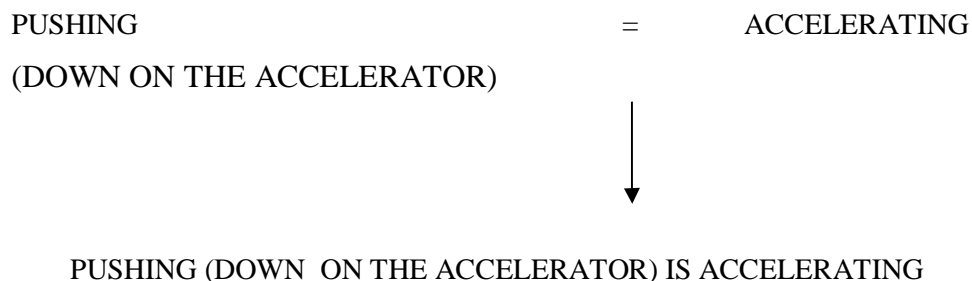
- the act of pushing is implicitly performed by the direct agent, “she”, while the abstract entity, “some residual effort”, is a primary indirect abstract force inside her that made her perform the act of pushing, as shown by the following paraphrase:

(a) Some residual effort made her push her right foot down as well...

This effort is so important, that it becomes the syntactic subject of the literal act of pushing, while the real agent, “she”, is downplayed and omitted.

- agent and patient are co-referent by metonymic association, since physical force is applied by the agent on the agent, and more exactly on one part of the agent’s body.
- the force direction, “down”, refers to the direction followed when accelerating or pushing down on the accelerator.

Moreover, it can be noted that the literal interpretation of this example is less obvious, since the concept of accelerating is not referred to directly, but indirectly by the gesture that designates this concept. Indeed, when accelerating, it is necessary to push or press down on the accelerator with the foot. In other words, the gesture of pushing or pressing down on the accelerator corresponds to the action of accelerating. The interaction or association of the acts of “pushing down on the accelerator” and “accelerating” is a “description/definition” association, in which the phrase used in the context, that is, “pushing” is a description of the situation, or more exactly, a description of what could be directly referred to as “accelerating”. The manner of referring to a concept indirectly by describing it, instead of naming it directly, is called a periphrasis. Contrary to metonymy, in which the source and target elements are associated in such a way that each element corresponds to different stages of the same domain of experience (for instance the “RESULT FOR ACTION” metonymy, in which the action and the result of this action are considered to be part of the same domain of experience, but to refer to two different stages of this domain), the periphrasis is present when two phrases are associated in such a way that each corresponds to the same stage of the same domain of experience (for example, this current situation, in which the gesture of “pushing on the accelerator with one’s foot” and the corresponding action of “accelerating” are considered to be part of the same domain of “accelerating” and to refer to the same action of “accelerating” itself, but the first one indirectly, while the second one directly). In (18), “push her right foot down (on the accelerator)” is considered a description of the concept of “accelerating”, this latter being thus the direct concept corresponding to this description—see also explanation in example (4) of the corpus-based analysis of *fingertips* , and example (5) of the Brown-corpus-based analysis of *knuckle* . This periphrastic situation is summarized in the schema below:



2.12.1.2 Using physical force with part of the body to move oneself past or through a group

The second literal sense of *push* is retrieved from 3 occurrences out of 64 literal examples. It differs a little bit from the first sense, since the pushing event usually occurs through a group of people, as in the following examples:

(19) *As the train stood on the platform we did not know if we would ever board it. Then came the order from one of the station staff for us to do so, and there was really pushing and place seeking. (Corpus: BNC_Written.txt at position 2829984)*

(20) *But they all tightened their belts and after a great deal of grunting and squeezing and pulling and pushing they emerged, one by one, into the moonlit churchyard. (Corpus: BNC_Written.txt at position 5006693)*

In examples (19) and (20) above, the context helps understand that the pushing events occur through a group of people. In (19), many people need to board the train, and the availability of place for everyone is questioned, as shown with “we did not know if we would ever board it” and “place seeking”. In (20), the idea of a great number of people is mainly shown with “a great deal of”.

Note that this group of people could be considered a “secondary patient” (my term), as change of position may occur, but it is more likely the agents themselves should be considered the “primary patients” (my term), as the agents exert force to make themselves move. In the examples above, the agent-patient is not explicit, since the action of pushing is in focus, but each person that is part of the group seems to be one agent-patient that pushes to reach a same goal, such as “find a seat for himself” in (19).

Furthermore, it is more likely for the agent to use physical force with one part of the body, such as the arms or the elbows rather than the hands, as in the example below:

(21) *Stripped to the waist, one dug while the other stacked. Their barrow full they straightened up and turned to push their way towards the road. (Corpus: BNC_Written.txt at position 4909979)*

In (21), the agents “they” push barrows by the means of their hands. When pushing their way towards the road, they try to clear their way through a group of people. As the agents’ hands are

already used to push barrows, the use of another part of the body is implied when being in contact with the group. The presence of a group of people is implicit here, but the use of the verb “push” helps understand that the agent needs to exert force for the chosen path to be followed. This path leads to their final destination, which is not expressed here, but the direction of their movement is, with the prepositional group “towards the road”. The group is thus viewed as obstacles on a linear path that leads to an end point.

Analysis of semantic features discussed in Part 2.7.1.1 can also be done here, since *push* may be conceptualized differently from the first literal sense. The table below summarizes this analysis:

Semantic features	Interpretation of push as “Using physical force with part of the body to move oneself past or through a group”
Number of participants	two types: <ul style="list-style-type: none"> - an agent-patient (agent-primary patient) - a secondary patient <p>Note that when all people of a group push one another, they are both agents-patients and secondary patients at the same time (such as in (19) and (20))</p>
Contact implied in the act of pushing	yes between the agent and the secondary patient
Force direction	not explicit
Movement direction	forward (same direction of the body); precision may be given with the following prepositional group (such as in (21), in which the path followed by the agent is indicated with “towards the road”)
Force and movement typology	usually, succession or series of punctual gestures and movements (usually not continuous, since contact does not occur with the same secondary patient of the group, but rather with different secondary patients of the group)
Force connotation	<ul style="list-style-type: none"> - neutral (such as in (21), in which the agent seems to only try to follow their path without force being exerted against the secondary patient) - negative (such as in (19) and (20), in which the agent exerts force against the secondary patient to achieve their goal)
Cause-effect relationships	cause and effect may be: <ul style="list-style-type: none"> - strongly implicated and immediate if the agent is stronger than the secondary patient - not so strongly implicated and not immediate if the agent is not so strong as the secondary patient (such as in (20), in which the pushing event lasts a certain amount of time before the resultant event “emerge” occurs)
Patient’s reaction expected or not	not expected

2.12.1.3 Press something (or part of something) using physical force with the hand

This third literal sense of *push* touches on 2 occurrences out of 64 literal examples. It consists of pressing something, usually with the hand. The patient can usually move in a twofold manner when pushed. This twofold movement enables the agent to make the patient to be on or off, that is, to be in use or not to be in use. Consider the following examples:

(22) *Guil slowly puts the point of the dagger on to the PLAYER's hand, and **pushes**... the blade slides back into the handle. (Corpus: BNC_Written.txt at position 5583218)*

(23) *The lift boy **pushed** the button for the twentieth floor and the button for full speed. (Corpus: BNC_Written.txt at position 5291366)*

In (22), the dagger can be set in two ways or positions: its blade can be pulled out of the handle when it is in use, or it can be pushed into the handle when it is not in use anymore, as is the case in this example. In both cases, the agent's hand or part of their hand (such as their finger) exerts its force on the same patient in a twofold way, that is, toward (pushing) or away from (pulling) the handle of the dagger (see also Talmy 1988: 35).

In (23), when pushing or pressing the button for the twentieth floor (with the hand), the agent "lift boy" makes the patient "lift" move and reach the twentieth floor. In other words, when his hand or part of his hand (such as his finger) exerts its force toward the button for the twentieth floor, it entails an impulse to be created in the internal mechanism of the lift, so that this latter moves. If the button is not pushed or pressed, the patient does not move, and is off.

2.12.2 Metonymic use

2.12.2.1 Push as a characteristic of a category

This metonymy is reminiscent of the "touch-and-close fastener" (see Part 2.3.2.2 "Touch as a characteristic of an object" in the corpus-based analysis of *touch*). *Push* appears in compound as an adjective (2 out of 9 metonymic occurrences), as in the following example:

(24) *The passenger lift, first entered from the right-hand lobby in the ground floor hall, serves the three main floors, and is controlled by a fully automatic set of **push buttons** at each floor so that the car can be called or dispatched from any of the main floors. (Corpus: BNC_Written.txt at position 3020995)*

In (24), the push button deals with a lift button that can be pressed at each floor, when a car is needed to be called or dispatched. In other words, the pressing of the button is an impulse that activates a mechanism (such as a light signal) that makes it known that a car is needed. A push-button is thus a button that needs to be pressed to make something work (see also definition of *push* in Part 2.7.1.3 above), that is, a button that is used by pushing it. *Push* refers to a type of button that works in a particular way. This type of button is represented by the required action when activating a mechanism or an engine (here a lift). The manner of using the button by the act of pushing it to make the engine work is the characteristic that distinguishes this button from other types of buttons (like the toggle buttons that need to be pushed up or down to be activated or deactivated; or the selector switches that need to be turned to the left or to the right to select one of two or more positions). Hence, this example reflects the MANNER FOR OBJECT metonymy, in which the action to be done to use an object represents this object itself.

This metonymy could be shown by the syntactic structure of the compound itself. Indeed, the first element, “push”, that is the modifying element of the second element, “button”, appears in an adjectival position, that is, before the noun, “button”, but is part of the noun or verb category. This implies that the action of pushing denoted by the noun or the verb does not refer to any situation in particular, but rather becomes a characteristic that is part of the main element of the compound. The first modifying element is therefore closely linked to the second main element, as if it were part of the second element itself. This close link is also shown by syntactic elements such as the hyphen between the first element “push” and the second element “button” when written “push-button”, and the absence of syntactic space between the two elements when written “pushbutton”. This syntactic analysis would also explain the difference between the following phrases:

- a) *a pushed button*
- b) *a push button*

In a), “pushed” is a past participle and appears as an adjective that modifies the noun “button”. “Pushed” is used here literally, and is more likely to refer to a particular situation, in which a button is/has been/was pushed. In b), “push” is a noun or verb that appears in adjectival position. It is used

metonymically to refer to a particular object that has its proper use, that is, an object that activates something by pushing it (in any situation).

2.12.2.2 *Push as a focused stage of an act*

As seen in the previous corpus-based analyses, *push* focuses on a stage or step of an act with this type of metonymy, which is the most employed in the corpus (8 out of 10 metonymic occurrences).

Consider the following example:

(25) *Thick blood,
Wood splinters,
Glass splinters an tears
An him never want nu charity,
No ambulance,
St Johns man talks in vain,
Blood hides de cut from de eye,
Glass splinters **pushing** pain.
Not one police number came. (Corpus: BNC_Written.txt at position 5327693)*

This example could be paraphrased by the following sentence:

(26) *Glass splinters make pain more intense/cause pain to be more intense/intensify pain, as they go deeper into the body.*

As such, on the one hand, *push* conveys the notion of cause denoted by causative “make” or “cause”, and the notion of progressive or continuous physical movement into the container “body” with “go deeper into the body” (see also the “continuous” type of movement in this corpus-based analysis of *push*). It is interpreted physically as the causal force “making (something) move (by using continuous movements)”. However, contrary to the typical literal use of *push*, the act of pushing is here involuntary and non agentive, since there is no human agent responsible for the act of pushing, but rather the inanimate and concrete object “glass splinters”. Even if not agentive, this object is personified; by being placed in the position of subject, it is considered the agent responsible for the pushing event, that is, an agentive force capable of provoking change inside the body—see also example (16) in the corpus-based analysis of *seize*. As such, “glass splinters” is personified, and thus conceptualized metaphorically as a person.

Furthermore, even if “pain” occupies the place of the patient in the sentence, as the patient generally directly follows the verb, it does not seem to correspond to the patient, but to the resultant

state caused by movements of the glass splinters into the body. “Pain” is an “abstract” feeling that arises from physical dysfunction or dysfunction of/in the body, caused by the contact between “glass splinters” and the body. The “real” patient thus appears to be the personified agent “glass splinters” itself, which is thus both agent and patient (see also the “number of participants” part in this corpus-based analysis of *push*) at the same time. This agent-patient role of “glass splinters” and the resultant state implicitly conveyed with “pain” are rendered explicit in the following paraphrase:

(27) *Glass splinters push themselves into the body, so that pain is felt.*

Such a syntactic structure, which entails omission of the real patient, and placement of the resultant state in the position of the patient, may be explained by metonymic association, in which the cause stands for the result, as shown by the paraphrase above.

Such metonymic association allowing the collocation between the causal verb and the resultant state has semantic effects. First, as the causal verb *push* is understood as a continuous physical act, the effect “pain” is also understood as continuous, so that intensity of pain is higher or more intense as glass splinters go deeper into the body. The negative experience of the feeling of pain derives from the more schematic physical experience of an entity feeling “less free” when entering and going closer to the core of a container. Moreover, such a direct syntactic association calls for a strongly implicated type of cause-effect relationships, such as the one observed in “They pushed themselves flat against the tunnel wall”, in which the result “flat” is contiguous in time with the causal punctual action *push* (see “punctual” type of movement in this corpus-based analysis of *push*). However, as the type of movement is understood as continuous here, this syntactic association may be explained by the fact that the feeling of pain is directly associated with the inside movement deeper into the body.

Consider now the following examples:

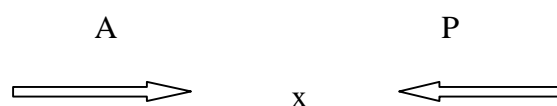
(28) *As a result of this intrusion the Nganasans were pushed farther north into the tundra, and a lasting enmity between them and the Dolgans was created. (Corpus: BNC_Written.txt at position 3336159)*

(29) *The Russians were pushed back northwards to the Stanovoi mountains, where the frontier fixed in 1689 by the Treaty of Nerchinsk was recognized until the nineteenth century. (Corpus: BNC_Written.txt at position 3310980)*

(30) *While the main west-to-east movement in the occupation of Siberia was accomplished by the first half of the eighteenth century, the frontiers of the Russian Empire continued to be pushed forward in various directions, thus bringing more peoples under its control. (Corpus: BNC_Written.txt at position 3313257)*

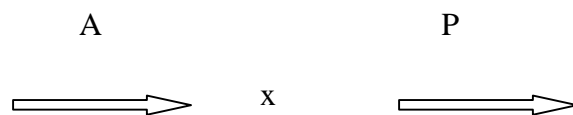
In the three examples above, the pushing event appears in a battle or conquest context, in which territories of two nations or communities are delimited in space after two armed groups that represent these nations or communities; that is, the agent, and the patient supposedly, fight one another to gain portions of land. Basically, the winner of the battle gains the portions of land he fought for, and the territories of the nation he represented are thus expanded in space. Conversely, the loser of the battle loses these portions of land, and the territories of the nation he represented are therefore not expanded and may even be reduced in space. Consequently, battles to conquer territories seem to be composed of two stages:

1. a physical act of fighting between two groups, one of which being the one that performs the pushing act and called the agent while the other one is called the patient. This physical act is represented by the literal act of pushing, in which the agent physically fights against the patient by the direct means of the body, such as the hands, or indirect means, such as any types of weapons, in order to make the patient move back and draw back from them. In other words, opposing forces of the agent and patient are present when fighting: force of the agent or agonist force (Talmy 1988) who wants the patient to follow a particular direction (literally move back from the agent), and force of the patient or antagonist force (Talmy 1988) who follows the opposite direction (literally move towards the agent). The two opposite directions followed by the agent and patient lead to (direct or indirect) contact between agent and patient, as in the schema below, in which “A” represents the agent, “P” the patient, the thick arrows the agent’s force direction on the one hand and the patient’s original movement’s direction on the other, and “x”, the zone of contact:

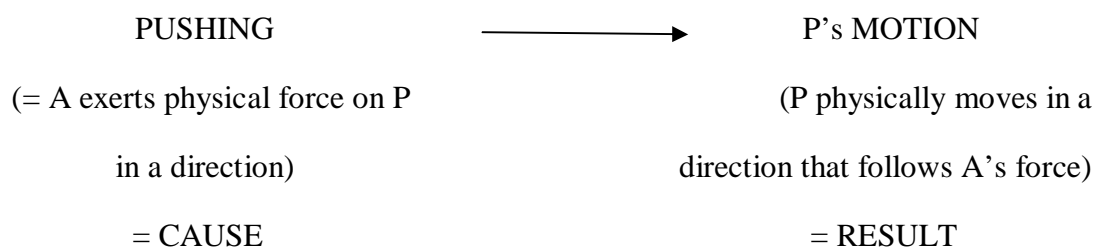


When the agent is stronger than the patient, that is, when the agent’s force counteracts the patient’s, the agent is the winner and the patient finally follows the direction the agent wants

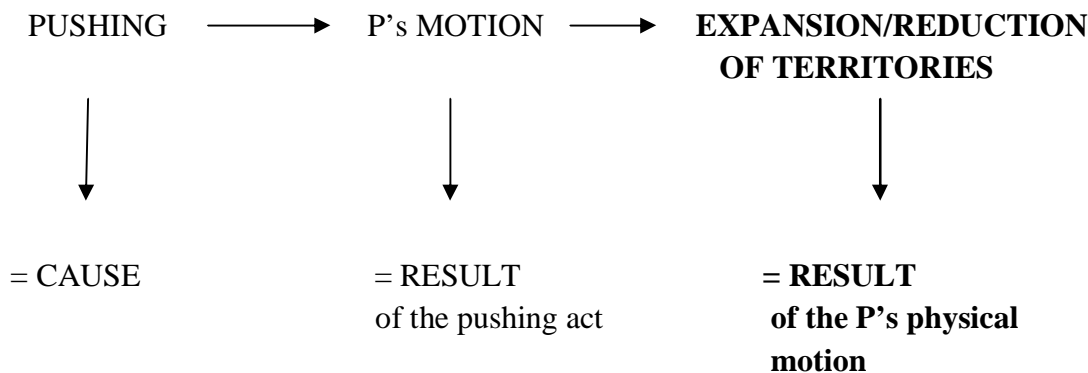
them to follow, as in the schema below, in which the agent's force and the patient's final movement follow the same direction:



In the examples above, the agent's force direction and the patient's final movement are strongly implicated and explicit. These are respectively "farther north" and "into" in (28), "back northwards" and "to" in (29), and "forward" and "in" in (30). These adverbs and prepositions all indicate physical directions in space, such as transition or motion from one place to the other with "to"—see also (8) with "into". The act of pushing thus appears to be a physical act in which opposite forces encounter each other, and in which the stronger force (here, the agent) leads to the motion of the one that is less strong (here the patient), as shown in the schema below, in which the thin arrow represents the succession of actions:



2. a delimitation of territories according to the result of the battle, that is, expansion in space of territories of the winner group, or reduction in space of territories of the loser group, is shown in bold in the schema below:



In all the three examples above, the speaker/writer is more interested in the results of the literal pushing act rather than the pushing act itself. This can be seen by the passive voice of the verb “push” and by the fact the agents are not expressed in (29) and (30), or implicit in (28). First, consider example (30), in the active (31a) with undefined agent “they” and then the one we have in the corpus, that is, in the passive voice without the agent being expressed (31b):

- (31)a. *They pushed forwards the frontiers of the Russian Empire...*
 b. *The frontiers of the Russian Empire were pushed forward...*

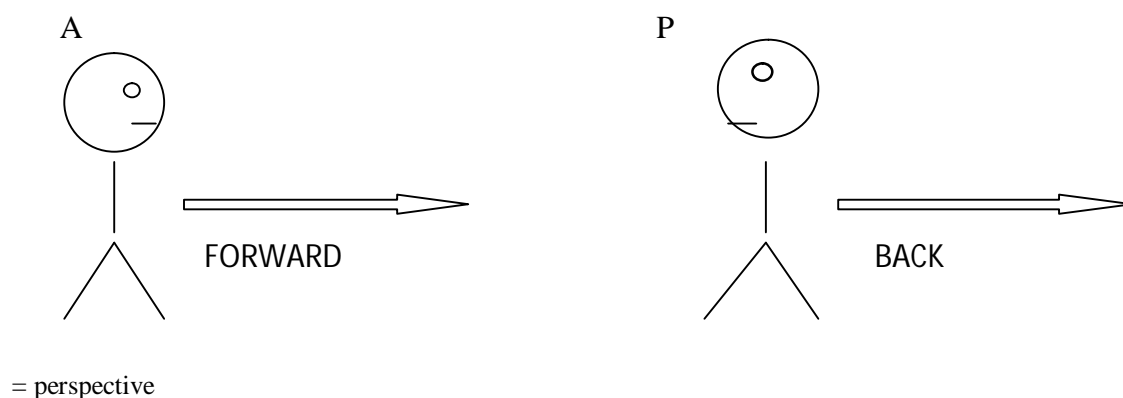
The two sentences do not have a difference in emphasis only, in which the focus is the agent in (a), since it is the subject of the sentence, while it is on the patient in (b), the two sentences also differ in their meaning. Even if “push” is a dynamic verb, sentence (b) in the passive voice conveys a “static” effect, contrary to (a). Furthermore, the writer, (a), describes an event in the past, but that is also valid at the moment he writes it. Descles, Guentcheva and Shaumyan (1985) talk about difference in ‘aspectual conditions’, and thus in the truth conditions of sentences in active and passive voices when analyzing sentences like 1) *David killed Goliath* and 2) *Goliath was killed by David*:

...the event denoted by 1) (7.15 a) is never realized in simultaneity with the utterance of the speaker, so 1) (7.15 a) is not true concomitantly with the utterance, while 2) (7.15 b) denotes a state and is true for each instant of the utterance.

The writer also seems to be more neutral when describing the scene in the passive voice, since the notion of intentionality is absent from the utterance, contrary to the utterance in the active voice, in which the agent is present and is involved in a more deliberate act of pushing. The fact the agents are not expressed in the passive voice thus indicates the speaker is more interested in the resultant facts rather than the persons responsible for the pushing act. The agentless passive in (b) depersonalizes the deliberate act of pushing, as if no one were responsible for it. It is a neutral way to relate to the facts as they happened, giving the impression that nobody is at the origin of them; as quoted from Carter et al. (1997:151):

Passives are often a way of depersonalising a text, because in removing agent phrases, the people and forces behind actions can be downplayed, leaving the process itself as the major focus.

Even if the agents are not expressed in (29) and (30), or implicit in (28), they can be easily identified from the immediate context. Indeed, in (28), the animate or human agent is “the Dolgans” (see the phrase “*and a lasting enmity between them and the Dolgans was created*”). In (29), the animate agent is China or the Chinese army (see the reference of the Treaty of Nerchinsk formed in 1689 between China and Russia). In (30), even if animate participants are absent from the context, Russia or the Russian army is the animate agent. This is shown by the explicit reference of the force direction with the adverb “forward”, which indicates the vantage point (Langacker 1991), or point of reference the speaker/writer takes when describing the situation. Indeed, the use of the adverb “forward” demonstrates that the perspective is the agent’s position, as shown in the schema below:



However, what can be noticed is the way in which the cause of the patient's motion is presented. In (28), even if "the Dolgans" is the animate agent, the cause that leads to the resultant motion is explicitly the Dolgans' intrusion (see "as a result of this intrusion"), which is an act performed by the Dolgans. This act as a whole is considered the cause, rather than the human participants. In (30), the immediate context that precedes helps understand that the agent is an act, rather than a human agent. Indeed, the situation of Russia is compared with that of Siberia with "while" and so the pushing event touches on the "movement in the occupation" of Russia, as it is the case with Siberia in the preceding phrase. In (29), even though such a preceding context is not present, the following context (see "where the frontier fixed in 1689") helps understand that the pushing event still deals with movement in the occupation.

All these syntactic elements, that is, the agentless passives that enable the patients to be topicalized, and the fact that the cause of the patient's motion is recognized as an act rather than a human agent, indicate that the speaker/writer focuses on the results of the pushing act rather than the physical pushing act itself, for which the human agent is responsible. These examples thus illustrate the ACTION FOR RESULT conceptual metonymies in which the action stands for the result. However, it appears that results of the pushing act are not presented the same way in the three examples. In (28), the human patient, "the Nganasans", is topicalized and the speaker/writer focuses on the patient's motion and the relationships between both human participants after the pushing act occurs (see "*and a lasting enmity between them and the Dolgans was created*").

In (29), the human patient is still focalized, but the speaker seems to focus more on the result of the patient's motion, that is, the delimitations of territories (see "result of the patient's motion in schema above) rather than the patient's motion itself (see "*where the frontier fixed in 1689 by the Treaty of Nerchinsk was recognized until the nineteenth century*"). The use of the adverb "back" also indicates that the speaker/writer takes the vantage point of the patient when talking about these delimitations (see patient's vantage point in the schema above), and therefore focuses on the reduction of Russian territories.

In (30), the patient, "the frontiers of the Russian Empire", is now inanimate, and shows that the speaker/writer focuses on the results of the patient's or patients' motion, that is, on the delimitations of territories. As discussed above, the use of the adverb "forward" indicates that the speaker/writer takes the vantage point of the agent when talking about these delimitations, and thus

focuses on the expansion of Russian Empire. This is also shown by the fact that the patients are neither expressed nor determined (see “*more peoples*”).

Metonymy is also found in the following examples:

(32) *First, they cleared away the living grasses that valiantly **pushed at the surface** and then the dried stuff from the previous year. (Corpus: BNC_Written.txt at position 4911194)*

(33) *There was sufficient daylight **pushing in** from outside to enable Elisabeth to take her bearings, but she needed the light of her torch to find the entrance to the narrow middle chamber. (Corpus: BNC_Written.txt at position 4920124)*

In these two examples above, “push” consists of two different acts: “growing” in (32) and “entering” in (33). These two acts are construed as dynamic acts requiring physical force, even if force direction may differ in both examples: vertical direction in (28) and horizontal in (29). What is noticed first is that both agents, which are agents-patients at the same time, are inanimate, but personified. Indeed, grasses are “living” grasses doted with human qualities, indicated by “valiantly” in (32). Furthermore, the act of pushing is usually performed by human agents capable of using the physical force of the body to act physically on the patient and make them move. In (32), the act of growing requires vertical force to be exerted by the agents on themselves. This act is explicitly intentional in the context with “valiantly”, which gives power to “grasses”, these latter being capable of “deciding” to grow and exert force on themselves for the growing event to occur. In (33), the act of entering the room requires horizontal force to be exerted by the agents on themselves as well, while an implicit obstacle is encountered on the agents’ way, such as the window, which prevents daylight from being spread inside the house without force being exerted. In both cases, the speaker/writer describes a situation in which the causing force “push” is highlighted, instead of the corresponding resultant action that would consist of the patients’ movement in space, that is, vertical movement upwards by the grasses in (32), and horizontal movement from outside to inside the house by daylight in (33). Both examples therefore reflect the CAUSING FORCE FOR RESULTANT ACTION metonymy, in which inanimate agents are personified, and whose power and force are put into light, as if these inanimate agents were human.

As in the other studies, metonymies found with *push* create a “realistic” effect, in which linguistic entities are brought to life in language thanks to “visible” syntactic elements that help the reader/hearer, mentally simulating concrete scenes of these linguistic entities.

Metaphors create some similarities between entities thanks to visible syntactic elements, as well, that help the reader/hearer understand the “hidden” semantic meaning created by such an association of entities. We are now going to study these metaphorical links between source and target entities.

2.12.3 Metaphoric use

2.12.3.1 *The haptic metaphor*

As discussed in previous corpus-based analyses, target elements are conceptualized as elements involved in active touch with this type of metaphors. Consider first the following examples:

(34) ***Push** boundaries, take risks, and interweave unique colour schemes with subtle variations. Become really involved, so that you experience in full the profound emotional depths of colour. (Corpus: BNC_Written.txt at position 1135948)*

(35) *She had gone down with all hands in the North Atlantic. Her luck had been **pushed**, most probably of necessity, too far. All on board were Britons, from all our islands. (Corpus: BNC_Written.txt at position 2821717)*

In both examples above, *push* is a simple verb and conveys the idea of “going over something” mentally, or abstractly speaking. In the corpus, this idea of “going over something” is only retrieved from these two examples. In (34), *push* consists of exerting mental force, or acting on abstract entities such as “difficulties”, so that you can overcome, go over, or resolve them. Exerting mental force could mean thinking about the way of resolving these difficulties. The PATH schema here activated is: abstract obstacles found when performing an activity are conceptualized as physical boundaries or obstacles found along a path that prevent you from pursuing your way, so that the example reveals the DIFFICULTIES ARE IMPEDIMENTS TO MOTION conceptual metaphor. Thus, coping with abstract obstacles encountered when performing an activity (such as problems or difficulties) by mentally acting on them or thinking and finding a way of resolving them, is

conceptualized as pushing physical boundaries encountered along a path by physically acting or exerting physical force forward on them.

In (35), *push* consists of taking a risk by doing something that is likely to cause you trouble. Here, the risk refers to having a lot of different people on board (note the metonymic phrase “all hands” which stands for “people”). In other words, *push* corresponds to the act of thinking that you can use luck to obtain even more luck, in a continuous cycle, and acting upon that expectation. As such, luck is conceptualized as a vertical path, degrees of luck as physical locations along this path, and the highest degree of luck as the final possible destination you can reach. Overextending luck (pushing luck too far) is conceptualized as an upward path leading to a hidden cliff. In other words, one pushes luck upward, until reaching a point where the path ends, leading to an unavoidable drop.

Both examples with *push* therefore reveal the MENTAL EFFORT AS PHYSICAL FORCE conceptual metaphors, in which thinking about going over abstract entities, such as difficulties or luck, is conceptualized as physically acting or exerting physical force on them. (28) illustrates the more general PERFORMING AN ACTIVITY IS WALKING ALONG A PATH conceptual metaphor, in which abstract obstacles are conceptualized as physical ones. Furthermore, (29) reflects the EXPERIENCING LUCK AS WALKING UP A PATH conceptual metaphor, in which luck is construed as a path.

Consider now the following instance:

(36) *"After that my car gave a big flick in the fast corners and it was difficult to drive. I **pushed hard** and I picked up some places, but then in the bad conditions Lehto caught me and I went off into the wet and that was it...*
(Corpus: BNC_Written.txt at position 4030)

In (36), the pushing event consists of forcing oneself to make an effort. This instance thus reveals the MENTAL EFFORT IS PHYSICAL FORCE metaphor. The adjective “hard”, which follows the verb, indicates that the mental effort is great, and is construed as the force or violence required when physical effort is done by pushing. This example also applies to the more general CAUSE IS PHYSICAL FORCE conceptual metaphor, in which this mental effort or force exerted on the patient’s mind is the cause of the patient’s resultant action “picked up”. This mental act may be the result of physical acts of pushing though, such as “accelerate” (which would consist of literally “push down on the accelerator”) or “barge through”(which would consist of literally pushing one’s way through the cars).

Let us now analyze the examples below:

- (37) *Warsaw Pact nations take advantage of our February meeting in Ottawa, where we will launch the Open Skies negotiations, to give a further **push** to the Vienna talks on conventional forces. I invite Allied governments to consider establishing a Nato Arms Control Verification Staff. (Corpus: BNC_Written.txt at position 2476016)*
- (38) *His philosophy took a long time to be appreciated, partly because he never **pushed** his own work, which was subsequently overshadowed by that of Wittgenstein. He was a quiet, modest man, easy going and uninhibited... (Corpus: BNC_Written.txt at position 3450825)*
- (39) *The UDC seems to be intent on creating inner city science parks and industrial estates, which would **push** even more people out of the city -- already the young people are moving out, leaving the middle-aged and the elderly. (Corpus: BNC_Written.txt at position 3800636)*
- (40) *In addition, because there are only a very few, small sites available for redevelopment, new investors would be pushing out present occupiers if the development were to be economically viable. (Corpus: BNC_Written.txt at position 3800452)*
- (41) *Accordingly, a number of migration theories and general statements have been formulated over the years, as shown in Table 5.1. Out of these, **push** factors 2 and 5 and pull factors 1, 2 and 3 have been most important for depopulation in the western world, and pull factors 4 and 6. have been most important for people moving from urban to rural areas.*

From (37) to (31), *push* belongs to different grammatical categories each time, but conveys the same idea of forcing, compelling or convincing someone to do something. In the corpus, this idea is the most employed among the occurrences that have the same metaphoric interpretation (9 occurrences out of 11). In these examples, the act of pushing refers to mentally acting on the patients to make them do something. In (37), *push* is a noun and is likely to refer to the effort made by the agent “we” to convince the patient “allied governments” to establish “a Nato Arms Control Verification Staff”. These efforts are considered a mental action on the patient’s mind to make them adopt the agent’s views on a subject (here, on “conventional forces”).

In (38), *push* is a simple verb. Somebody that pushes their work is somebody that convinces somebody else to buy or accept their work. In other terms, when pushing his work, the agent “he” mentally exerts mental force on the human patient’s negative or neutral mind about his work (by presenting positive aspects of his work for instance) to make the human patient change their mind and accept his work. When mentally acting on the human patient’s mind, the agent aims to change the human patient’s mental state of mind: from a negative or neutral to a positive state of mind, which would result in a change in the inanimate patient, “his own work”, from “not being accepted” to “being accepted”. The PATH schema is activated with *push*, which implies motion

forward or motion along an horizontal path. Thus, convincing someone that his work is the best is also construed as moving or pushing it towards the human patient, and more exactly towards the visible area of the human patient to catch his attention. Indeed, it implies that the former is put under the attention of the human patient when highlighting its positive value. This relation between the idea of being under attention and the forward movement on a linear path, may be derived from the effect produced by the bodily or perceptual experience of placing or seeing something placed forward, that is, before other things in a linear pile. The thing placed at the beginning of the pile is put under attention at once and is first examined or examined before other things, which come after in the pile. By convincing the human patient of the good value of a product, the agent puts his/her work under the attention of the human patient and gets this latter to reject the other people's work and therefore to choose his/her own.

In (39), *push* is a prepositional verb, since it is followed by the prepositional phrase “out of the city”, which indicates the final movement direction followed by the patient “people”. In this example, the main agent refers to the act of “creating inner city science parks and industrial estates” as a whole, rather than the human agent “the UDC” that is responsible for the decision. Here, the causing act expressed by *push* is not precise, and we can first wonder which stage of the creation of “inner city science parks and industrial estates” is the real cause that made the patient “people” move out of the city. Indeed, the creation of science parks and industrial estates can be composed of some stages, and one of these stages can be in focus when referring to the agent and the patient's motion. These stages are the following:

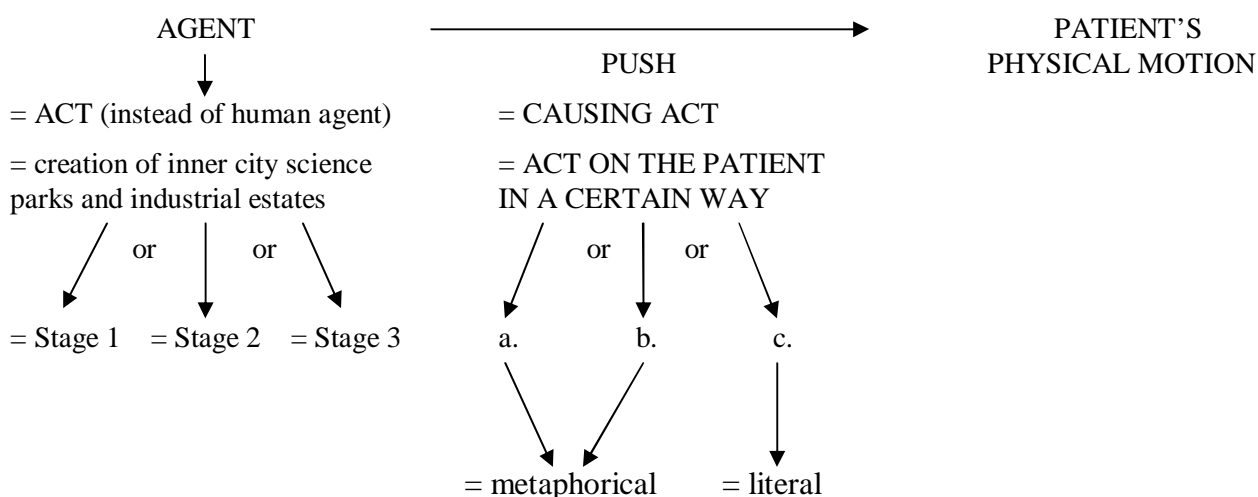
- Stage 1: the mental act itself of deciding the creation of these science parks and industrial estates (by the UDC)
- Stage 2: the mental act of convincing people to move out (by the UDC), so that these science parks and industrial estates can be “physically” created
- Stage 3: the physical act of creating or constructing these science parks and industrial states themselves (by the persons in charge of physically creating them)

According to the focused stage, the causing act of pushing will differ, as the agent will not act on the patient the same way. The way the agent can act on the patient is described below:

- a. The agent can act *mentally* on the patient *in an indirect way* (if the agent focuses on Stage 1 or 3) when the patient convinces themselves to move out.

- b. The agent can act *mentally* on the patient *in a direct way* (if the agent focuses on Stage 2) when the agent convinces, persuades, or forces the patient to move out by threatening them for instance.
- c. The agent can act *physically* on the patient *in an indirect way* (if the agent focuses on Stage 3) when the agent “physically” makes the patient move out by destroying their house, for instance. This act is considered indirect, as it does not imply direct physical contact between the agent’s and patient’s body parts.

Thus, depending on the way the agent is acting on the patient, that is, in a mental or physical way, the causing act of pushing will be considered metaphorical or literal respectively. The situation is summarized in the schema below:



Even though the way the pushing act is performed is not clear, it is likely to refer to a mental act as a whole, as described in (a) or (b) above, rather than the physical act itself described in (c), which is too specific and improbable. The pushing act in (39) is thus considered metaphorical and consists of mentally acting on the patient to make them physically move out of the city.

In (40), *push* is a phrasal verb, since it is followed by an adverb (or “prepositional adverb” in Bolinger 1971: chapter 2), “out”, which indicates the force direction followed by the agent “new investors”. As in (34), the causing act expressed by *push* is not precise, or undefined, but is likely to be metaphorical, so that it consists of acting mentally on the patient, “present occupiers”. This

interpretation is also preferred, since the agents, “new investors”, are human, and refer to the persons responsible for the decision of the site’s redevelopment.

In (41), *push* is in an adjectival position. A “push factor” refers to the force, which acts to drive people away from a place (based on About.com Dictionary). In (39) and (40), the causing act or force expressed by the verb *push* is undefined, but is more likely to consist of acting mentally (if the agent is considered human) or abstractly (if the agent is inanimate) on the patient “people” to make these latter move from urban to rural areas, no matter whether the agent is considered an act (or inanimate agent) or a person (animate and human agent). One might note the unusual simple infinitive form of the verb *push* placed as an adjective, which suggests the use of a grammatical metaphor (see third part) as well.

Examples (37) to (41) thus reflect the MENTAL FORCE IS PHYSICAL FORCE or ABSTRACT FORCE IS PHYSICAL FORCE conceptual metaphor, in which mental pressure on the patient’s mind (when the agent uses mental force on the patient’s mind) is conceptualized as physical pressure on the patient’s body (when the agent uses physical force on the patient’s body). It also applies to the more general CAUSE IS PHYSICAL FORCE conceptual metaphor, in which this mental pressure or force exerted on the patient’s mind is the cause of the patient’s resulted motion. In examples (39) and (40), what is interesting to note is that the prepositional phrase and adverb refer to concrete motion and force direction respectively. Indeed, in (39), “out of the city” indicates that the patient’s motion, which is the result implied by the agent’s mental act, is literal, since it entails the patient’s physical motion or change of location in space. In (40), the adverb “out” indicates that the agent’s force direction is literal as well, and therefore that the agent’s mental act aims at the patient’s physical motion or change of location in space.

2.12.3.2 *The haptic and space metaphors*

The presence of both metaphors (31 occurrences out of 42 metaphoric examples; see appendix 12) apply to examples in which *push* is followed by a preposition or an adverb. First, as seen in the previous part 2.7.3.1, *push* is conceptualized as an activity involved in active touch with the haptic metaphor. This time though, with the space metaphor, the prepositions or adverbs that follow *push* are used metaphorically as well, and describe abstract motion or force directions—contrary to

examples (39) and (40) above, in which the preposition and adverb “out” are used literally to describe motion and force directions in space.

- (42) *That could **push** the United States, with a pre- invasion force of about 13,000 troops in Panama responsible solely for protecting the canal, into the unwanted role of a long-term army of occupation. (Corpus: BNC_Written.txt at position 2650527)*
- (43) *The 17.5pc VAT rate on fuel bills would **push** families already " on the edge" into despair. (Corpus: BNC_Written.txt at position 3943151)*
- (44) *Tobacco-to-insurance group BAT reveals third quarter figures on Wednesday. A much improved performance from its insurance arm Eagle Star should **push** profits for the nine months over the £1bn mark. (Corpus: BNC_Written.txt at position 1403914)*
- (45) *The average passenger spent 3% less time at the airports but the numbers are 4m ahead at 44m in the half year to September. This **pushed** profits from £151m to £200m. (Corpus: BNC_Written.txt at position 1433372)*
- (46) *Meanwhile, a 9% profits leap by Anglian Water to over £100m **pushed** the price to 477p, up 10p. (Corpus: BNC_Written.txt at position 1444444)*
- (47) *A rise in high-street spending gave a mini boost to confidence and this **pushed** the FT-SE 100 Index through the psychological 2,700 level. (Corpus: BNC_Written.txt at position 1474738)*
- (48) *International waste management company Attwoods **pushed** profits ahead more than 11 per cent in the six months to January after a good performance from key sectors of its US business. (Corpus: BNC_Written.txt at position 3965005)*
- (49) *Buyers **push** prices up... (Corpus: BNC_Written.txt at position 3897566)*

In these examples, *push* is the causal abstract force that has affected the patient. In (42), this force is not expressed in the context, but what can be noted is that the agent, “that”, is inanimate and is likely to refer to an act performed by a human agent, rather than the human agent themselves. In (49), this force explicitly refers to the human agent, “buyers”, while, from (43) to (48), the agents explicitly refer to an act rather than a human agent: “the 17.5pc VAT rate on fuel bills” in (39); “a much improved performance from its insurance arm Eagle Star” in (44); “this” that refers to the fact expressed in the preceding sentence in (45); “a 9% profits leap by Anglian Water to over £100m” in (46), “this” that refers to the fact expressed in the preceding phrase in (47), and “International waste management company Attwoods” in (48). These examples thus reflect the ABSTRACT FORCE IS PHYSICAL FORCE conceptual metaphor (see also examples (37) to (41) above), in which an act is considered the agent of the pushing event from (43) to (48), while it is a person in (49).

Regarding the prepositions that follow *push*, in both (42) and (43), the motion direction “into” followed by the patient “the United States” in (42) and “families” in (43), is abstract, since the noun phrases that this preposition introduces do not represent a physical location in space, but rather an abstract position in (42), and a psychological state in (43). It conveys the idea of an abstract motion, and, more exactly, a transformation process due to the act described by the verb *push* (Broccias 2003: 102). In (42), this abstract motion is linked to the fact that the agent has been getting involved in an activity, which here refers to the invasion of the Panama Canal. The CONTAINER schema is here activated; activities are conceptualized metaphorically as containers with physical or spatial dimensions. “Into” conveys the idea of getting involved, which is conceptualized metaphorically as the motion into a container. In (46) as well, “into” suggests that the abstract entity or psychological state, “despair”, is conceptualized metaphorically as a container with physical or spatial dimensions, into which the patient “families” move.

From examples (44) to (46), prepositions “over”, “from”, and “to” introduce noun phrases that have a numerical value. In (48) and (49), the adverbs “up” and “ahead” have both a numerical value as well. In (44) and (49), “over” and “up” conveys the idea of increasing in a numerical value. Something increasing in value is conceptualized metaphorically as being in a higher position in space with the MORE IS UP conceptual metaphor (Lakoff and Johnson 1980: 15–16). The similarity between the target idea of increase or larger quantity and the source idea of high position in space can be explained by the fact, based on basic human experience, that adding more things to a pile makes it higher. Alternatively, an increase in a numerical value is conceptualized as motion along a vertical path or a path that is seen in a vertical perspective: in (44), “over” is a preposition, and introduces the noun phrase “the £1bn mark” that represents the landmark with which the patient, “profits”, is in relation. The preposition, “over”, introduces a relationship or comparison between two values after motion of the patient occurs and a final numerical value is reached by this latter. (This idea of comparison and relationship with “over” can be explained by the expression “more than”, which could replace “over” in this context.) In (49) however, this idea of relationship or comparison between two values is not present, since “up” is an adverb and does not introduce any landmark or reference point with which the patient could be in relation. “Up” only focuses on the force direction followed by the agent, “buyers”, and not the numerical value reached by the patient.

In (45), the prepositions “from”/ “to” indicate a transition process from an initial numerical value to a final one, while in (46), “to” indicates a transition process to a final value only.

Thus, in both examples, this transition process from one value to the other is conceptualized metaphorically as motion along a linear path: in (45), the transition process from an initial value to a final one is conceptualized as moving from an initial physical location to a final physical destination. In (46), the transition process to a final value is conceptualized as reaching a final physical destination. In both examples then, an abstract line of numerical values is created, and the transition process refers to a linear transition (Broccias 2003).

In (47), the preposition, “through”, conveys the idea of achievement and completion. It describes an abstract motion to a numerical value, which represents a level that is aimed at. Managing to attain a particular numerical value is conceptualized metaphorically as reaching the final destination on a journey after physical effort has been made all along the way.

In (48), the adverb, “ahead”, conveys the idea of making good progress, which corresponds to an abstract motion forward. Indeed, making good progress is conceptualized metaphorically as moving towards a final destination on a journey, that is, moving forward.

Consider now the following examples:

(50) *Ecoglasnost, the dissident environmental movement, is considering running independent "green candidates if the elections are pushed through.* (Corpus: BNC_Written.txt at position 2484510)

(51) *When it comes to a present, I'm stuck.*

If you weren't far away

On your own special day,

I could give you a really nice glass of lager.

Love Story

I thought you'd be a pushover

I hoped I wouldn't hurt you. (Corpus: BNC_Written.txt at position 5834360)

In (50), “push through” means “get officially accepted”, while in (51), a “pushover” is someone that let themselves be easily persuaded. In both examples, the agent of the pushing act seems to be human and *push* conveys the idea of forcing, compelling or convincing someone to do something. These examples thus primarily reflect the MENTAL FORCE IS PHYSICAL FORCE conceptual metaphor or the more general CAUSE IS PHYSICAL FORCE, in which a person is considered the agent of the pushing act, and is therefore capable of acting mentally on the patient’s mind.

Regarding the adverbs that follow *push*: in (50), the adverb “through” conveys the idea of completion or achievement—see also example (47) above, which touches on the result of the

causing act of pushing, and entails the elections to be officially accepted after some effort has been made or despite some oppositions. Hence, achieving something is conceptualized metaphorically as reaching the final destination on a journey after physical effort has been made all along the way.

In (51), the adverb “over” seems to refer to the agent’s force direction and indicates the agent’s control or power. When letting themselves be persuaded, the patient “you” yields to the mental control exerted by the agent, who acts mentally on the patient’s mind when performing the act of pushing. As seen before in example (44), “over” conveys the idea of higher position when used literally. Here, somebody becoming more powerful than somebody else is conceptualized metaphorically as being in a higher position than the second. This can be explained by basic human experience that when two people fight, the one that is physically on top of the other is usually the one that is stronger. Furthermore, the literal use of the preposition “over”, rather than “above” for instance, suggests “closeness” or contact between the patient and the Landmark or referent (see definition of “Landmark” in Langacker 1991) that is represented by the noun phrase introduced with the preposition (Logan and Sadler 1996: 506–07). Having an influence on someone could thus also be conceptualized as being close to them or having physical contact with them, since it is more likely to act on a person when having direct contact with this latter. As suggested by O’Keefe (1996: 307; quoted from Lindstromberg 2010: 116):

“An entity which is vertical to another and in contact with it might exert a gravitational force on it...That might explain why prepositions that convey...relationships [of vertical contact]...are used to represent influence in the metaphorical domain.”

Let us now analyze the example below:

(52) *...improving existing products, we also devote more than 50 per cent of our Research and Development resource to developing new products, **pushing back the frontiers** of technology. (Corpus: BNC_Written.txt at position 1904943)*

In (52), “pushing back the frontiers of something” means “discovering new things about it or a better way of doing it”. First, *push* here consists of researching and developing new technological products. The frontiers of technology represent the boundaries between what is known or what has been developed so far, and what is unknown or what is still to be developed. When pushing the frontiers of technology, that is, when trying to develop new technological products, it is as if you exert physical force on these frontiers or boundaries to make them move and enter the unknown part

of technology. Hence, this example primarily reveals the MENTAL EFFORT AS PHYSICAL FORCE conceptual metaphor, in which thinking about how to improve and develop new technological products is conceptualized as physically acting or exerting force on the frontiers of technology. This example also illustrates the PERFORMING AN ACTIVITY AS WALKING ALONG A PATH, or more precisely here, DEVELOPING TECHNOLOGY AS WALKING ALONG A PATH, in which technology is conceptualized as a linear path, technological progress already achieved as physical locations encountered along this path and passed, and the frontiers of technology or limits of technological progress already achieved (limits of what is known) as the final known destination you can reach when following this path, which is thus considered the limit of the path of what is known. As such, these frontiers also represent obstacles that prevent the agent, “we”, from accessing the unknown part of technology, and are therefore conceptualized as physical boundaries encountered along a path that prevent us from accessing the unknown part of this path.

The adverb “back” that follows *push* expresses the idea of “expansion”. Consequently, “pushing back the frontiers of technology” is conceptualized as lengthening the path ahead of the agent (that is, the path of what is known), so that its final destination is further away. In other words, when lengthening this path, the limit of this latter is pushed at a farther distance from the agent. Note that the adverb “back” describes the abstract force direction followed by the agent “we”, but does it from the vantage point of the patient “frontiers of technology”—see also vantage point of the agent with “forward” and vantage point of the patient with “back” in example (26) and schema, in the metonymic part above—which explains why the adverb “back” is used instead of “forward”. This implies that the agent and patient are in a “fighting” position, that is, facing each other (see this fighting or face to face position in the schema as well).

(53) *He and Richard, very different in temperament, inevitably quarrelled a good deal. Richard had not lost his sense of fun— his ability to **push aside** the vexations of the moment and look to better things ahead. (Corpus: BNC_Written.txt at position 5210927)*

In (53), “pushing aside the vexations of the moment” means ignoring or avoiding thinking of them. The patient, “the vexations of the moment”, refers to the agent’s feelings at a particular moment. As these feelings have a negative effect on the agent, this latter ignores them, or behaves as if he did not feel what he really feels. With “push”, making a feeling different from what it is at a particular moment by the use of one’s mind is conceptualized as moving a physical object out of one’s field of

vision and out of one's way. As such, life is metaphorically conceptualized as a journey on a linear path in LIFE IS A JOURNEY conceptual metaphor, in which the present is construed as the present location, and, more precisely, as one's Body Space (see corpus-based analysis on *elbow*), and the future as locations ahead of the body. As in (52), this example also reflects the MENTAL FORCE IS PHYSICAL FORCE conceptual metaphor, in which acting on a feeling is conceptualized as acting physically on a concrete object.

The adverb "aside" that follows *push* indicates the force direction followed by the agent when moving the object, that is, out of the agent's way. With "push aside", this feeling is thus conceptualized as a physical object that is moved out of the agent's way. Ignoring a feeling or avoiding thinking of it at a particular moment is conceptualized as moving a physical object out of one's way.

Consider now the examples below:

(54) *We went in the direction of Stoke Poges and recited as much of the "Elegy as we could remember. Then she kindly **pushed** back, as I was rather tired.* (Corpus: BNC_Written.txt at position 2853699)

(55) *They have a vital role to ensure all the major strands of thought, of opinion, of policy are fairly covered. These programmes need to question and **push** forward the agenda of the news programmes.* (Corpus: BNC_Written.txt at position 1265230)

In example (54), "push back" means "make the time or date of something later than originally planned" (based on Oxford Advanced Learner's Dictionary). With *push*, rescheduling an event is thus first conceptualized as moving a concrete object on a linear path, and illustrate the ABSTRACT FORCE IS PHYSICAL FORCE conceptual metaphor, in which acting on an event is conceptualized as acting physically on a concrete object.

The adverb "back" expresses the idea of the future when talking about the rescheduling an event. First, this example shows that time is conceptualized as a journey. Events belonging to the past are conceptualized as physical locations that are behind us (that is, physical locations that we have already passed), while events belonging to the future are conceptualized as physical locations that are in front of us (that is, physical locations that are still to be reached). Second, "back" represents the perspective the writer takes when referring to the act of pushing: perspective of the patient with "back" (while it would be the one of the agent with "forward") presupposing that the agent and patient adopt a "fighting" or face to face position.

In example (55), “push forward” seems to consist of making the agenda of the new programmes accepted. With *push*, the same conceptual metaphor as the previous example, is found.

The adverb “forward” indicates that argumentation about something is conceptualized as a journey. Making progress in the discussion is conceptualized as proceeding on a journey (and getting closer to one’s destination).

2.12.4 Interaction between metonymy and metaphor

Interaction between metonymy and metaphor is only found once in the corpus and appears in a multi-word expression that has been created by the poet to convey a particular effect.

2.12.4.1 Metonymy from metaphor

The example below has been interpreted as one’s of Goossens’ type of interaction, that is, “metonymy within metaphor”, in which only one term of the multi-word expression has a metonymic meaning, even if the metonymic interpretation has proved difficult to analyze:

- (1) *Painful bomb*
Questionable bomb
Reactionary bomb
Sad bomb
Taxable bomb
U.N. bomb
Valuable bomb
Wicked bomb
Xenophobia bomb
Your bomb
Zymotic bomb
*A bomb **pusher** writes*
We have Big Bombs (Corpus: BNC_Written.txt at position 5303840)

Example (56) is extracted from a poem written by Zephaniah. The expression “bomb pusher” is a play on words, which echoes the expression “drug pusher”, so that both meanings are assimilated. Thus, since a drug pusher is somebody that sells or is engaged in the illicit sale of drugs, a bomb pusher is understood as somebody that sells bombs (illicitly) in an already metaphorical context, in which “bomb” is used symbolically to represent bad and destructive thoughts and actions. The

notion of destruction is also denoted by “drug” in “drug pusher”, which would justify the play on words.

First, *push* is interpreted metaphorically as *promote*, and is reminiscent of the “push his own work” examples, which are conceptualized the same way. As such, causal force, which consists of “mental” manipulation, is first conceptualized as physical force. This causal force involves a mental action from the agent on the patient’s mind to make the patient do what he/she wants him/her to do (this is a case of manipulation). More precisely, this abstract force conveys the idea of convincing the patient to do something. Indeed, promoting a product consists of convincing the prospective buyer to buy by advertising, that is, by highlighting the positive value and usefulness of such a product. In other words, when promoting a product, the agent, “pusher”, mentally exerts mental force on the patient’s negative or neutral mind about this product (by presenting positive aspects of this product for instance) to make the patient change his/her mind. When mentally acting on the patient’s mind, the agent aims to change the patient’s mental state of mind, from a negative or neutral to a positive state of mind. Furthermore, the high degree of persuasion conveyed by the manipulation verb “to convince” is construed as a high degree of physical force as well, so that the force parameter is part of the mapping.

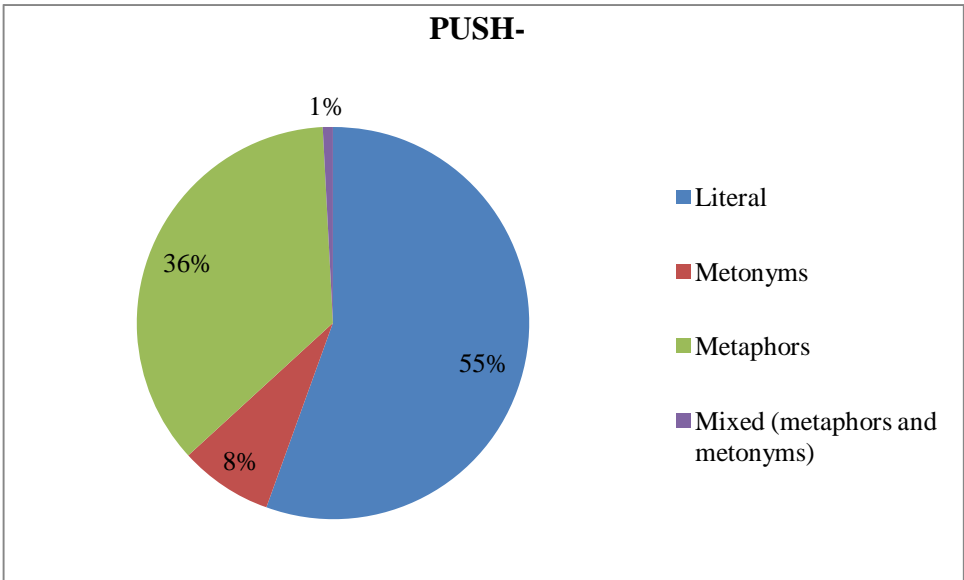
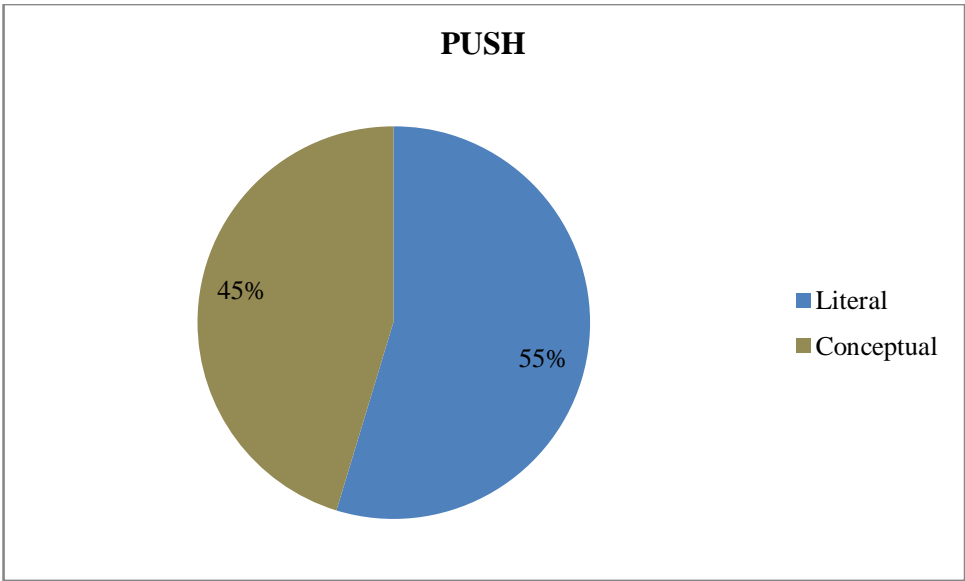
The forward movement is also present and the PATH schema is activated with *push*. Promoting a product is also construed as moving or pushing it towards the prospect, and more exactly towards the visible area of the prospect to catch his attention. Indeed, the idea of promoting a product implies that this latter is put under the attention of the prospect when highlighting the positive value of it. This relation between the idea of being under attention and the forward movement in a linear path, may be derived from the effect produced by the bodily or perceptual experience of placing or seeing placing something forward, that is, before other things in a linear pile. The thing placed at the beginning of the pile is put under attention at once and is first examined or examined before the other things, which come after in the pile. Thus, by convincing a prospect of the good value of his/her product, the seller puts the product under the attention of the prospect and gets the prospect to reject the other seller’s products and therefore to choose his/her own. The PATH schema seems to be activated with *push*, which implies motion forward or motion along an horizontal path, even if the notion of control conveyed by a verb such as *promote* is generally associated with an upward movement from which the CONTROL IS UP metaphor derives. Indeed, in other contexts, *promote* may be paraphrased as “raising to a more important or responsible job or rank” for instance, the notion of control conveyed by “more important or responsible job or rank” being associated with the upward movement “raise”.

Such a metaphorical association does not seem to be enough to explain the whole sense conveyed by the expression “drug pusher”, since selling drugs is the effect of the seller’s action of promoting drugs, or of his/her abilities to convince the prospect to buy drugs. It thus seems that a cause-effect metonymic association is retrieved from a primary metaphorical one, in which the effect, selling drugs, is conceptualized as the action of promoting drugs. As such, manipulation with push is “successful”, since the agent gets the patient to do what he/she wanted him/her to do by using mental force—convincing the patient to buy drugs.

2.12.5 Table of results: written BNC Corpus on Push

	Total	Nominals	Verbials			Adjectivials	Adverbials	In idioms		
			SV	PrV	PV			Nom.	Verb.	Adj.
Literal	64	4	19	25	16	0	0	0	0	0
Metonyms	10	0	1	2	5	2	0	0	0	0
Metaphors	42	2	4	19	14	3	0	0	0	0
Mixed	1									
Metaphors from metonyms	0									
Metaphors within metonyms	0									
Others	1	1		0		0	0	0	0	0
Total	117	7	24	46	35	5	0	0	0	0

SV = Simple verb; PrV = Prepositional verb; PV = Phrasal verb



2.13 Handle

2.13.1 Literal sense

The prototypical meaning of *handle* consists in touching , lifting, or holding something with the hand(s). In the corpus, only a few examples can be considered as literal (7 out of 68 occurrences), as in the following examples:

- (1) *The behavioural aspect of browsing as part of the information-seeking activity is far from understood. Studies undertaken to observe browsing in the shelf consultation show that the user **handles** a limited number of items in the process and ultimately selects but a few. (Corpus: 189, BNC_Written.txt at position 4547853)*
- (2) *Women could drum and **handle** pistols and the soldiers' swords were not particularly long or heavy and would have presented no problems. (Corpus: 167, BNC_Written.txt at position 3822011)*

In (1), *handle* is understood as “physically holding” a “physical” object, thanks to the immediate context. Indeed, “browsing” is a “physical” (by opposition to mental or more generally abstract) activity, since it regards “shelf consultation”, that is, searching for books in a bookcase. In this context, the term “items” is easily understood as representing the noun, “books”, that are selected and held in the hands when browsing this way. This can be called “physical browsing” as opposed to “computer browsing”, which deals with searching by the means of the computer.

In (2), the handling of the object “pistols” by the subject “women” does not just involve touching the pistols or having a physical contact with them and the women’s hands, but certainly also knowing how to use them. The idea of “competence” or “skill” is a semantic feature addition to the physical sense of “handle”, and can be implied in situations such as the one in (2).

Sometimes, context can help determine which interpretation should be given or preferred:

- (3) *Carefully nip off older flowers on cyclamen and African violets, leaving no stalks which can rot. Take care when **handling** Primula obconica or wear a pair of cotton gloves to avoid any possible skin rash. (Corpus: 157, BNC_Written.txt at position 127110)*

In (3), the only sentence, “take care when handling Primula obconica”, is not sufficient to opt for a physical interpretation of *handle* as a prototypical sense of touching with the hands. Indeed, it could even mean “deal with”. Thanks to the immediate context, *handle* is understood as being a

“physical” activity (see “nip off”) having also “physical” results (see “wear a pair of cotton gloves” and “avoid any possible skin rash”).

Physical semantic features of *handle* can also be revealed in conceptual meanings, so that meanings are interlaced together, even if they seem different “on the surface”.

We are now going to study the presence of the physical meaning of *handle* in more conceptual uses of the term, that is, when used metonymically and metaphorically.

2.13.2 Metonymic use

2.13.2.1 Handle as a concrete object

As a noun, *handle* first mostly refers to a concrete object metonymically (17 out of 33 metonymic occurrences; see appendix 13), as in the following examples:

- (4) *Seal the box with tape, then pad and cover it, attaching a handle across the top. (Corpus: 172, BNC_Written.txt at position 576127)*
- (5) *Scratches around the brass door handle and lock bear witness to use over the years. (Corpus: 170, BNC_Written.txt at position 3036531)*
- (6) *"The man who had been a rich merchant, and who was now a beggar, had to make brooms for the town. He had a little hut with a stone floor, and a supply of handles and twigs. But to teach the man a lesson they had given him a supply of twigs that were old and weak; poor twigs for making brooms with. (Corpus: 178, BNC_Written.txt at position 5720205)*
- (7) *He trod the corridors again, looking for an unlocked door. Maybe the maids would have left some of the rooms open, if there was nobody staying in them just now. He tried a few handles. The only open door led to a broom cupboard. (Corpus: 177, BNC_Written.txt at position 5654383)*
- (8) *Then, just as the executioner was about to pull the handle he yelled out: "Wait a minute! I see what's sticking it!" (Corpus: 134, BNC_Written.txt at position 5291131)*
- (9) *The Queen was particularly delighted with these models and asked for two dozen to be sent to Buckingham Palace. Made by Brigg Umbrellas, with a handle matching one of the Brigg walking sticks in the King's wardrobe. (Corpus: 188, BNC_Written.txt at position 3003627)*
- (10) *The brush has been developed for easel painters; each one has a long, silver-grey handle which makes it ideal for easel painting when you need distance from the canvas. (Corpus: 146, BNC_Written.txt at position 1174120)*

It is interesting to note that the objects referring to *handle* are different types of objects, that is, objects with different physical shapes. In (5) and (7), the concrete object is a door handle that can be defined as “any fixed or lever-operated latch device” (Wikipedia) used to open or close a door. In (4), the shape of the object is undetermined, but is easily understood as being a rounded device attached to the top of the box that enables it to be gripped, so that the box can be easily moved. In (6), the handle deals with a broom handle, which is a long thin stick. In (8), the handle is a lever-operated device that enables the release or blocks the passage of a substance or energy flow. In (9), the shape of the handle is indicated by “walking sticks”. In (10), the handle refers to a brush handle, that is, a stick that the painter holds or is in contact with when painting. Thus, in all the examples above, the handle proves to be different concrete objects with different shapes that are utilized for different things or activities. Indeed, in (5 and 8), the handle is used to open and close a door; in (4) and (9), it is used to move an object; in (6), to sweep; in (8), to release or block the passage of substance or energy; and in (10), to paint, indirectly. The thing they have in common though, is that they all need to be gripped or grasped by the hands. The fact the handle is being held in the hand, is part of all these activities, as it was the case with many actions implying “touch” (see corpus-based analysis on *touch*). The handle is therefore an object that needs to be grasped by the hand for a particular activity to be performed. The shape of the object is secondary, as the same term designates different objects (see above), but the means by which the object is utilized, is the salient semantic feature that is highlighted. This reflects the “MEANS FOR OBJECT” conceptual metonymy, in which *handle* refers to a concrete object, but is represented as the means by which this object is used.

Also to be noted the use of *handle* as an adjective with the past participle form (-EN), while still referring to an object:

(11) *A large pair of cutting scissors are essential. They should be kept in a sharp condition, otherwise they will be no use at all. **Bent-handled** shears are best of all, as the blades rest flat on the cutting surface.* (Corpus: 154, BNC_Written.txt at position 574839)

In (11), *handle* refers to the object and “bent” to the shape of this object. Hence, a “bent-handled shears” are shears whose handle is off-set at an angle allowing the lower blade of the shears to stay flat on a cutting surface.

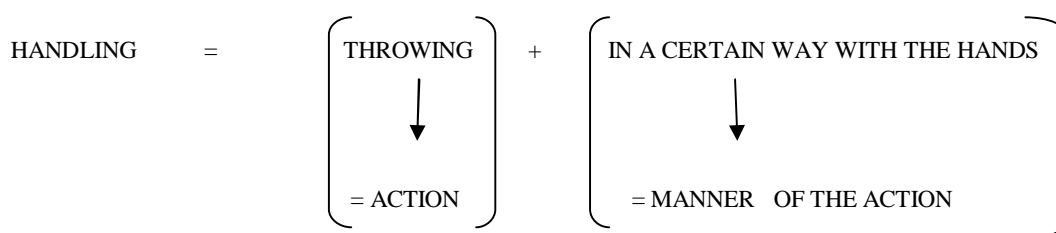
2.13.2.2 *Handl-* as a focused stage of an act

Occurrences of *handle* with such a metonymic interpretation (16 out of 33 metonymic occurrences) focus on a particular stage of the action (see also corpus-based analysis on *hand*) and are mainly verbs (12 occurrences out of 16 of this metonymic type). In the following example however, *handle* is a noun with the non finite form “-ING”:

(12)-- *failing to hold a difficult leg-side catch offered by Aravinda De Silva on 74 off Devon Malcolm -- but also impressed with the handling of his bowlers.* (Corpus: 134, BNC_Written.txt at position 429555)

In (12), *handle* suggests that the players know well how to use the object (that is, the “ball”, in the cricket context), in the sense that they have physical skills when being involved with the action implying physical contact between the balls and the hand, that is when throwing or delivering the ball to another player (that is, the “batsman” in the cricket context). This “know-how” semantic feature of *handle* could also be found in example (2) above, in which “handling pistols” could refer both to the literal physical act of “holding or grasping pistols in one’s hands”, but also to the physical skills of the subject when using or physically moving the object with the hands.

Thus, in (12), the speaker is impressed by how the bowlers “skillfully” move the ball with their hands. In other words, the speaker is impressed by the manner in which the bowlers act with their hands, not by the act itself, even if “handling” deals with an action, as seen with the presence of the non-finite form –ING. The action is secondary and implicit in the context: when knowing about cricket, the action made by the bowler can be easily understood as “throwing”, which is more precise than “handle”, which only conveys the idea of “movement”. Furthermore, the use of the grammatical form –ING with “handle” also conveys the idea of “movement”, so that we can understand that we are dealing with an action, with “handling”. This context would correspond to the semantic construction below:



With the use of “handling”, the action “throwing” is put in the background so that the salient part, that is the manner by which the action “throwing” is done, is emphasized. This thus illustrates the “MANNER FOR ACTION” conceptual metonymy, in which the skilful manner by which the bowlers throw the ball stands for the action of throwing itself.

This metonymical sense of *handle* can be extended in the example below:

(13) *Soft, weighty fabrics tend to fall easily into gentle folds; an obvious example is cotton velvet which is both soft, supple and heavy. Every fabric **handles** differently, and the only way to find out how it is likely to drape when made up into curtains is to hold up a large sample and study how it hangs. (Corpus: 180, BNC_Written.txt at position 554450)*

As in the “MANNER FOR ACTION” conceptual metonymy above, *handle* represents the manner by which the action “sew” can be performed, but this time, the grammatical forms are different, and the action is not what is really dealt with :

- the verb “handle” is here an intransitive verb and represents therefore a process, that is, a non-controlled and non-dynamic act, rather than an action that implies a dynamic act controlled by an agent.
- the agent is absent from the sentence.

However, what is important to note is that *handle* is understood as an “action” verb. The agent is also implicitly present in the semantic elements of the sentence, so that the “agentive” counterpart of this sentence is:

(14) *One handles every fabric differently...*

Consequently, in (12), an action refers to a process metonymically (this type of metonymy has been called “ACTION FOR PROCESS” metonymy by Ruiz de Mendoza and Pérez, 2001.) The use of this metonymy has grammatical effects or syntactic consequences for the organization of the clause (see Velasco 2002 for the syntactic consequences) that can be compared to the effects or consequences produced by the passive, as in the passive counterpart of (12) below:

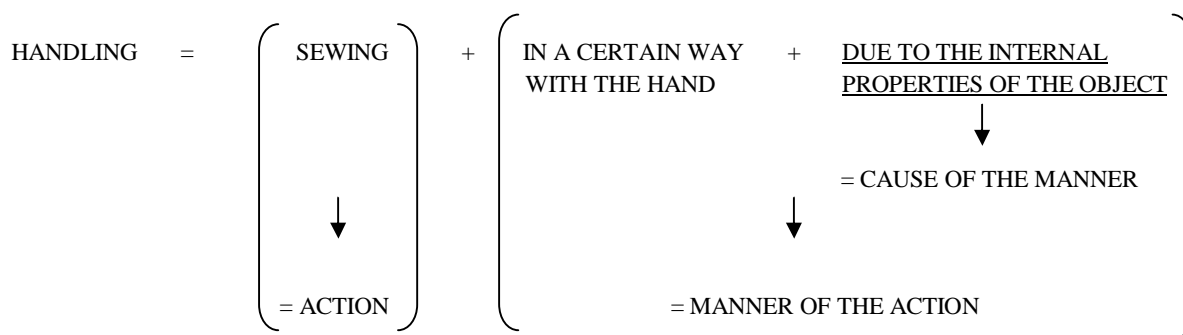
(15) *Every fabric is handled differently...*

Indeed, the most important grammatical effect of the clause is that the arguments of the sentence change position, so that the object occupies the position of agent—see the metonymic (13) or passive (15) compared to the non-metonymic counterpart (14). The object is “raised to the position”

(Velasco 2002) of agent, that is, the first argument position, as is the case here in the metonymic (13). In this latter, the first argument of the non-controlled act *handle* cannot be left unoccupied, and so, the object is raised to the position of subject, even if it is not semantically an agent.

As with the passive form, “the metonymy prompts a valency reduction of the predicate” (Velasco 2002), so that the verb *handle*, which is prototypically transitive, is employed intransitively as in (13).

Here, these syntactic consequences of the metonymy are accompanied by consequences regarding semantic interpretation. Indeed, valency change entails that the object becomes the salient part of the sentence and is thus highlighted. In this context, indeed, the focus is on the object, and, more exactly, the internal properties of the object, the latter having an important role in the action of “handling”, and, more precisely, in the action of “sewing”. The agent is in the background, as he/she does not really “control” the action of handling, which depends on the object, whose internal properties play a role in the action to be performed. For instance, also to be noted are the references of the fabric’s internal properties in (13): “weighty fabrics”, “cotton velvet which is both soft, supple, and heavy”. As said before, “handle” represents more the manner by which the action “sew” is performed rather than the action itself, and is therefore conceptualized as the MANNER FOR ACTION metonymy. However, a semantic feature is added compared to (12). Indeed, *handle* represents the cause by which the action is performed this way, that is the cause of the manner. The interpretation of this metonymy would correspond to the semantic features below:



With both metonymies, the salient semantic element of *handle* is the object, “fabric” (see the effect of the ACTION FOR PROCESS conceptual metonymy), and more exactly, the internal properties of that object (see the semantic features of “handling” in this “MANNER FOR ACTION” metonymy).

In the example below, the same ACTION FOR PROCESS and MANNER FOR ACTION metonymies are illustrated, the object, and, more precisely, the internal properties of the object, being the salient part of the action of “handling”, but the type of object differs; it is here a substance (“paint”) rather than a material—see “fabric” in (13):

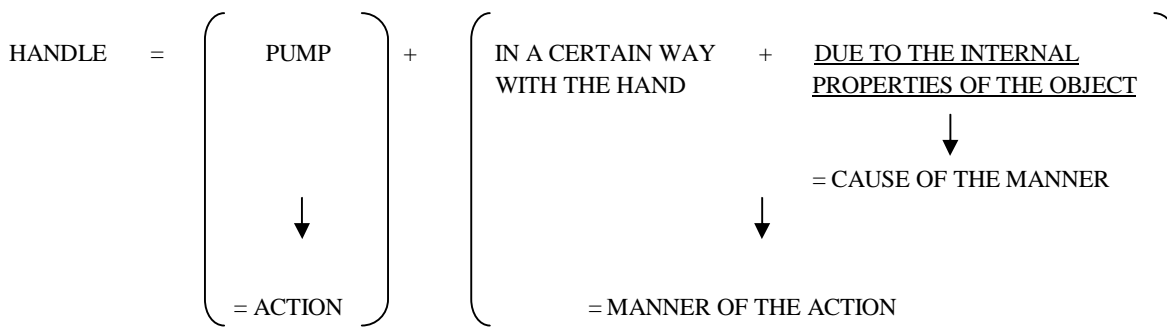
(16) *Exceptional durability and resistance to yellowing is promised by the combination of lightfast pigments and a highly advanced acrylic emulsion. The paint is soft, **handles well** and is easily thinned with water, though of course it is waterproof when dry. (Corpus: 177, BNC_Written.txt at position 1164005)*

The positive internal properties of the object “paint” are highlighted as well in the context of (16): “exceptional durability and resistance to yellowing”, “soft”, and “easily thinned with water”. Furthermore, “handles well” appears in the adjective enumeration of positive properties, and thus represents an internal property of the substance, “paint”, as well.

When transitive, *handle* does not have the same effect as in (13) , as the “ACTION FOR PROCESS” metonymy is not present:

(17) *If more than one fountain is desired, a surface pump is sensible and, of course when larger volumes of water than submersible pumps can easily **handle** are to be moved, then they become a necessity. (Corpus: 171, BNC_Written.txt at position 713069)*

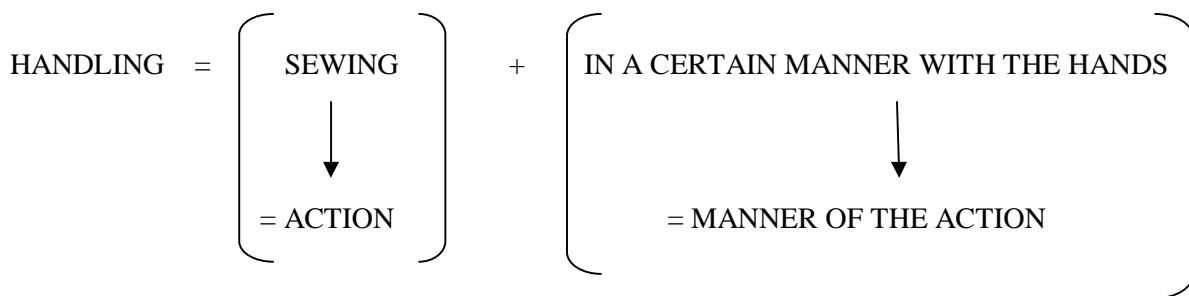
In (17), “handle” represents the manner by which the implicit action “pump” is performed due to the internal properties of the object, “submersible pumps”. Indeed, pumps can pump a “certain quantity of water” or can pump water “in a certain way” due to its internal mechanical system. As in (13), it would then represent the cause by which the action can be performed this way, and reflects the MANNER FOR ACTION conceptual metonymy. Here are the semantic features of (17):



In (18) below, the MANNER FOR ACTION conceptual metonymy is still noted, but it does not represent the internal properties of the object as found in (13), (16), and (17):

(18) *Use very sharp, fine pins (or needles), and very sharp scissors when **handling** these lightweight materials to prevent snagging the fine threads and puckering the fabric. (Corpus: 145, BNC_Written.txt at position 602205)*

In (18), *handle* is an “action” verb, and the –ING form conveys the idea of movement, as was the case in (12). The agent has thus an important role, and “controls” the action. As in (12), “handle” represents the manner by which the action is performed rather than the action itself. Below are the semantic features of “handling”:



The metonymies on “handle” in (12) and (17) can be distinguished from these literal ones:

(19) *Corded fitments enable curtains to be drawn without **handling** or soiling the fabric. (Corpus: 139, BNC_Written.txt at position 565575)*

(20) *An alternative to a cording set is a draw rod, which is a simpler and cheaper method of operating curtains without **handling** them. (Corpus: 162, BNC_Written.txt at position 570709)*

In (19) and (20), *handle* is understood as “physically holding” an object—a material in both (19) and (20) with “fabric” and “curtains”. These examples are interpreted literally, thanks to the context. In (19), “corded fitments” enable the object to not be in contact with the hands, and therefore not to soil the fabric. In (20), the “draw rod” prevents a direct contact between the hands and the object, “curtain”. This physical interpretation can then be compared to (3).

Handle can also be conceptualized metaphorically, so that occurrences with *handle* deal with more abstract rather than physical concepts in the following part.

2.13.3 Metaphorical use

The type of metaphor that is illustrated with occurrences of *handle* is the “haptic” metaphor (28 out of 61 conceptual occurrences; see appendix 13), in which target elements are conceptualized as elements involved in touching, and, more particularly, in “active touch” (my term), since the subject “acts” on the object when touching it, in order to achieve a goal (see also corpus-based analysis on *hand*). Let us first consider the following examples:

(21) *Langenscheidt's in-house staff have developed the product ideas and functionalities and **handle** marketing. Most of their sales were originally through traditional bookshop outlets but they have increasingly developed distribution through department stores and leisure electronics stores. (Corpus: 140, BNC_Written.txt at position 4128728)*

(22) *Pergamon Press, owned by Robert Maxwell, **handled** publishing in Britain. (Corpus: 145, BNC_Written.txt at position 2483267)*

In examples (21) and (22) above, *handle* means “are in charge of”. In (21), the agent “Langenscheidt’s in house staff” is responsible for the activity “marketing”; he’s dealing with it, because of his explicit or implicit competence and skills. His skills are explicit in the context with “have developed the product ideas and functionalities”, “have increasingly developed distribution...”. In (22), Pergamon’s Press skills are undetermined. In both cases, dealing with something is conceptualized as physically grasping it with the hands. When physically handling something:

- you implicitly possess or are in control with the thing you hold, when it is under the control of your hands and under your control;
- you implicitly discover the properties of an object and know what it is like, through touching;
- you implicitly manipulate it with skill, when you know it; and,
- the thing is under your attention, when being currently in your hands.

All these physical properties are mapped onto the domain of “responsibility”. When being in charge of something:

- you are in control of it, when dealing with it;
- you know it, when dealing with it;
- you deal with it skilfully, when you know the domain of activity in question and you have competence; and,
- the activity is under your attention, when currently dealing with it (during a certain amount of time)

The properties in both physical and abstract domains of “handling” and the corresponding conceptual metaphors when mapping takes place, are summarized in the table below:

Physical domain of HANDLING	Abstract domain of HANDLING (“being in charge of”)	Corresponding Conceptual Metaphor
something under your control when being in your hands	something under your control when dealing with something	CONTROLLING IS TOUCHING
knowing how the object is like when touching	knowing something when dealing with it	KNOWING IS TOUCHING
physical skills when knowing the internal properties of the object	mental skills when knowing the topic	MENTAL SKILL IS PHYSICAL SKILL
object under your attention when currently in your hands	something under your attention when currently dealing with it	ATTENTION IS TOUCHING

In the examples below, *handle* still means “deal with” or “be in charge of”, but the duration of the action of “handling” is different, according to the context:

(23) *At Felixstowe it offers a 24-hour service to some of the world's biggest ships, **handling** around 6,000 vessel movements a year.* (Corpus: 146, BNC_Written.txt at position 3893258)

(24) *The managing director of Armstrong Pumps, the Colchester-based specialist **fluid-handling** company, was impressed by the Chancellor's proposals.* (Corpus: 193, BNC_Written.txt at position 3961178)

In (23) Felixstowe’s handling of 6,000 vessel movements is something that can change in time, and is thus not a “fixed object”. In (24), “handling” is used as an adjective to refer to the type of activity

the company deals with. The company always deals with fluids, so it is considered as a “fixed object”.

Handle can also mean “master” or “have under control” when the action has been performed successfully, as in the following examples:

(25) *In addition, concern about the ability or more importantly, the need for library patrons to handle Boolean logic has also been expressed. (Corpus: 156, BNC_Written.txt at position 4550224)*

(26) *Lutyens's handling of space was a notable feature of his work, and the main hall of the Dolls' House, rising through three floors with lobbies on either side to give access to the main apartments, is particularly successful in this respect. (Corpus: 164, BNC_Written.txt at position 2977737)*

The idea of “being skilled” in the semantic features of *handle* is explicit in (25) with “ability”, so that competence is needed to deal with “Boolean logic”. In (26) the “handling of space” consists of knowing how to control space, so that both knowledge and control are implied. This extended sense of “deal with” in both (25) and (26) therefore reflects the CONTROLLING IS TOUCHING and KNOWING IS TOUCHING conceptual metaphors.

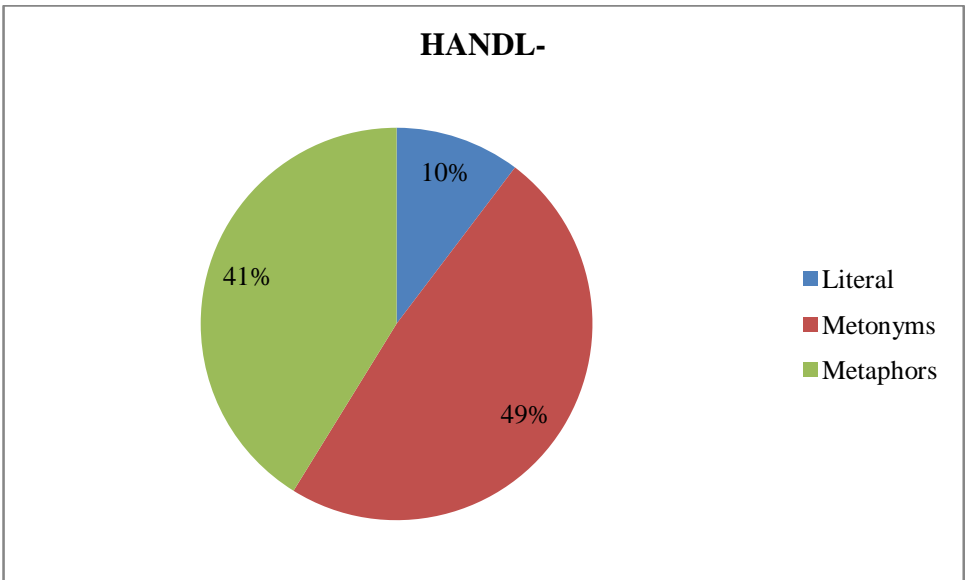
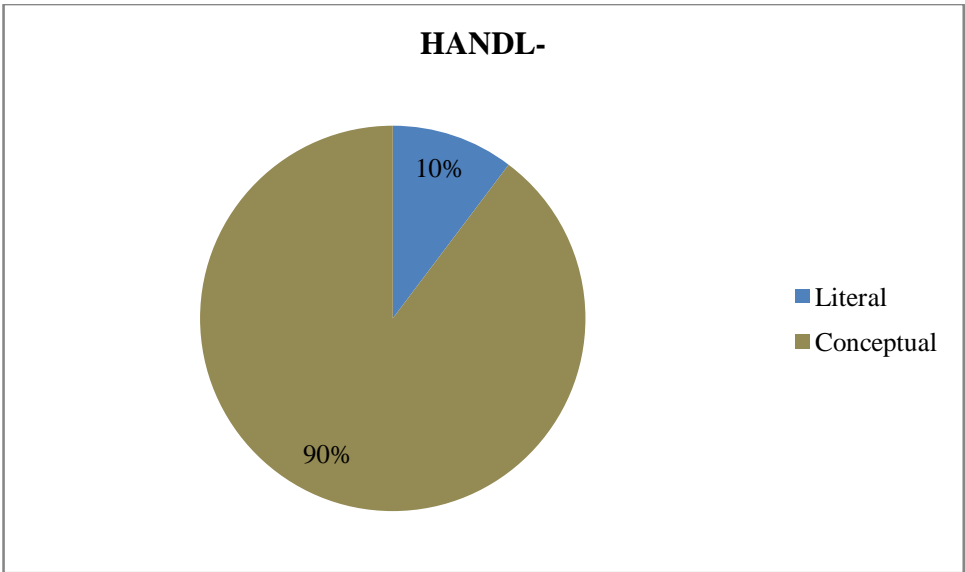
As another extended sense of “deal with”, *handle* can also mean “tolerate” as in:

(27) *Even when the preference is weak, the switch will not occur unless there has been time for the predators to learn how to handle the other (now abundant) species. (Corpus: 147, BNC_Written.txt at position 4632019)*

In (27) “handling” can be achieved if the predators are used to seeing them or know about them. Knowing and continuity (habit) are thus implied.

2.13.4 Table of results: written BNC Corpus on Handle

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Adj.
Literal	7	5	2	0	0	0	0	0
Metonyms	33	20	12	1	0	0	0	0
Metaphors	28	10	18	0	0	0	0	0
Mixed	0							
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	0							
Total	68	35	32	1	0	0	0	0



2.14 Seize

2.14.1 Literal sense

2.14.1.1 Take with the hand(s) using physical force

The first literal prototypical sense of *seize* consists of “suddenly and firmly hold someone by the part of their body or clothing” (MacMillan Dictionary online) or “quickly take something in your hand” (Longman Dictionary online), as in the following example, which is the only one retrieved from the corpus:

- (1) (*Guil **seizes** the player violently.*)
Guil: I have influence! (The player does not resist. Guil loosens his hold. More calmly.) (Corpus: 161, BNC_Written.txt at position 5468966)

Seize here indicates that the subject “Guil” holds “the player” in a firm way (see “violently”, and “loosens his hold”).

2.14.1.2 Take with the hand(s) using official power and physical force

The second literal sense of *seize* consists in taking somebody or something (by the means of the hands) using official power and force (based on MacMillan Dictionary online). As a result, the subject who “seizes” takes legal possession of the seized object. In all the occurrences that have such a literal meaning (6 out of 12 literal occurrences; see appendix 14), *seize* is a verb, as in the following examples:

- (2) *Tibetan sources claim that two nuns who were **seized** after the March demonstrations were held in cells with male prisoners and raped. (Corpus: BNC_Written.txt at position 2008361)*
- (3) *Tass said journalists were shown money and hand grenades **seized from** him and a tape recorder with the text of the oath Soviet citizens were expected to take when recruited. (Corpus: 174, BNC_Written.txt at position 2283353)*

In (2), the “seized” object corresponds to persons (“two nuns”). We understand that the act of seizing has been done by persons that are part of the official hierarchy, since the “seized” persons

were held in cell because of their taking part in the demonstrations. In this context, the act of seizing refers to the physical act that consists of taking somebody by force by the means of the hands. There is an idea of “passage” with this sense of *seize* (see also corpus-based analysis on *hand*), since a person is taken from one place to the other, as seen by the sequence of events: first they were seized, then held in cells. This use of *seize* also refers to a violent act, as physical force is implied.

In (3), the “seized” object is a concrete object (“money and hand grenades”) and here again, *seize* refers to the physical act that consists of moving the object from one place to the other, and also “from one owner to the other” by the means of the hand(s).

Below is the schematic semantic structure of *seize* as a “passage indicator” from one place to the other, in which the physical act of seizing, that is, the physical act leading to the passage from one place to the other, is the focused element (noted in bold in the schema):



In the schematic structure above, ‘A’ represents the original place of the object, this latter being “moved” to place ‘B’ by the act of seizing, which consists in using the hands with force to achieve the passage from place ‘A’ to place ‘B’, or from owner ‘A’ to owner ‘B’ in the case of (3). Indeed, in (3), the seized object, “money and hand grenades”, changes owner and belongs to the official power after being seized.

2.1.1.4. *Take illegally with the hand(s) using physical force*

The third literal sense of *seize* consists of taking “someone or something away in an illegal and violent way” (MacMillan Dictionary online). Here again, in all the occurrences that have such a literal meaning (3 out of 12 literal occurrences; see appendix 13), *seize* is a verb, as in the examples below:

- (4) *Ms Rubiya Sayeed, aged 21, has not been seen since Friday night, when she was seized by seven gunmen from a minibus in the state capital, Srinagar. (Corpus: 158, BNC_Written.txt at position 2445658)*

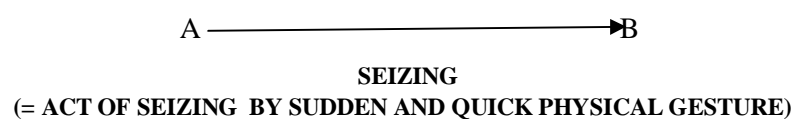
In (4), the seized object is a person (“Ms Rubiya Sayeed), and *seize* still refers to the “act of seizing” itself that consists involves taking someone physically by force, using the hands. Indeed, the speaker is interested in the moment at which she disappears from the original place. This moment corresponds to the moment of the act of seizing. At that moment, the “seizer” subject, “seven gunmen”, were in a minibus (“from a minibus”). This literal sense of *seize* can be distinguished from the previous one, as the act of seizing is performed illegally and not legally, but there is the idea of the “passage” from one place to the other in both senses. Below are the schematic semantic features of this sense of *seize*, which represent the physical act of seizing, that is, the physical act leading to the passage from place ‘A’ to place ‘B’, this physical act being the focused element (noted in bold in the schema):



Sometimes, it is not so clear which legal or illegal interpretation to be given to the act of seizing, as in example (5) below:

- (5) *Quelling an urge to run from the sanctuary, to seize the prince and bring him back before it was too late, she fell on her knees. (Corpus: 188, BNC_Written.txt at position 5145030)*

The notion of “legal and official” or “illegal” seizing does not seem to be present here, at least in the immediate context. The notion of physical force also needs to be extended to a sudden and quick movement rather than a violent gesture. The schematic semantic features can then be extended to the ones below for (5), in which the physical act of seizing, that is, the physical act leading to the passage from place A to place B, is the focused element (noted in bold in the schema):



Seize can have different meanings than the ones above when represented conceptually in a metonymic or metaphorical way.

2.14.2 Metonymic use

All the occurrences of *seize* that have a metonymic interpretation focus on a stage of the act of “seizing”, and not on the action itself (8 out of 43 conceptual occurrences; see appendix 14), as in the following example:

- (6) *Iraq sets off own rocket. Delhi minister's daughter **seized**. Separatist Muslim militants kidnapped the daughter of an Indian minister yesterday and are demanding the release of five jailed... (Corpus: 189, BNC_Written.txt at position 2360988)*

Here, the seized object is a person (“Delhi minister’s daughter”), and the act of “seizing” consists of taking someone illegally by force, but this time, *seize* refers to the consequence of the physical act of “seizing”, rather than the physical act itself. In this context, *seize* refers to the fact that Delhi minister’s daughter is captured somewhere. The reference of “kidnapped” that can be interchanged with *seize* in this context, refers more to the act of “detaining” someone than the act of seizing him/her. The results of the act of seizing are also seen in the context with “and are demanding the release of five jailed”, which can be seen as a condition for the return to the original place to occur. Below are the schematic semantic features, in which place ‘B’, or the final place resulting from the physical act of the passage *seize*, is the focused element (noted in bold in the schema):



This use of *seize* reflects the “ACTION FOR RESULT” conceptual metonymy, in which the physical act of “seizing” represented by *seize* stands for the result of this physical act in the context, that is, the notion of captivity in a place different from the original one (Place ‘B’ in the schema above). There is, then, a causal contiguity between the ACT OF SEIZING and CAPTIVITY (see contiguity relationship as the “cognitive basis of the corresponding metonymic change”, in Panther 2000). By using this metonymy, the speaker focuses on the physical act of “seizing” and may insist on the

illegal and violent characteristics of the event, these characteristics being part of the semantic features of the physical act of seizing.

This metonymy is also found with another type of “object”, as in the example below:

- (7) *There were 4,000 reports to the National Criminal Intelligence Service last year and in the last five years over £500,000 in cash has been seized.* (Corpus: 149, BNC_Written.txt at position 1463285)

In (7), the seized object is an amount of money (“over £500,000”). *Seize* stands for the result that follows the act of physically seizing the object. Indeed, it deals with the impressive number of reports and the huge amount of money involved in the act of seizing (see “4,000 reports” and “over £500,000”). This can also be seen with the present perfect tense used on “seize” in this context, since the present perfect often refers to the result of an action. By focusing on the physical act of seizing by the National Criminal Intelligence Service, the speaker may insist on their efficient action and way of working in general.

Seize refers to the result of the physical act of seizing in the example below as well, in which the seizer, “the Police”, seized a huge amount of cocaine:

- (8) *Police in Rotterdam have seized 726lb of cocaine in the biggest-ever haul in Dutch criminal history.* - Reuter. (Corpus: 188, BNC_Written.txt at position 2361487)

Seize can also refer to more conceptual notions, and thus be represented metaphorically in a certain number of meanings that we are going to examine.

2.14.3 Metaphors

2.14.3.1 *The haptic metaphor*

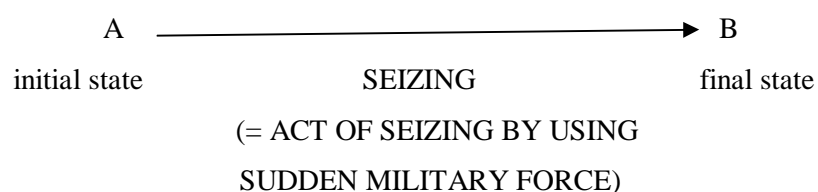
In the haptic metaphor, target elements are conceptualized as elements involved in active touch (see previous corpus-based analyses). This metaphor is the one most currently used in the corpus (28 out of 35 metaphoric occurrences; see appendix 14). Let us consider the following examples:

- (9) *A battalion of the 7th Light Infantry Division and a battalion of the 82nd Airborne, being used as ground troops, were deployed to **seize** the Atlantic Ocean end of the canal at Colon. They also took command of the crucial Madden Dam, which regulates the amount of water flowing into the canal, and maintained helicopter and motorised patrols along the 51-mile length of the canal. (Corpus: 132, BNC_Written.txt at position 2593829)*
- (10) *This happy state of affairs was soon to be destroyed, for Seth, the younger brother of Osiris, was jealous of Osiris's power and prestige and determined to **seize** the throne for himself. (Corpus: 178, BNC_Written.txt at position 1013918)*
- (11) *Military officers have tried to **seize** power six times since Mrs Aquino became President three years ago. (Corpus: 138, BNC_Written.txt at position 2289324)*

In the three examples above, *seize* means “take control of something suddenly or quickly”, usually by using military force (based on MacMillan Dictionary online). These examples reflect the CONTROLLING IS TOUCHING conceptual metaphor, in which controlling something by using military force is seen as physically seizing it by using physical force. The seized object is a place in (9), and the idea of control is explicitly suggested by the verb, “took command of”, in the following sentence, and the adverb, “also”, suggests both verbs mean the same thing.

In (10) and (11), the seized object is “power”, that can be considered an abstract concept or a situation. These two objects are, however, conceptualized differently in both examples. Indeed, in (10), the concrete object, “the throne”, refers metonymically to the abstract concept “power” as the throne is a symbol for power. In (11), the object seized is the abstract concept “power”, which is employed literally.

This metaphor enables an implicit understanding of how the taking of control takes place, that is, by using “sudden and violent force”, as is the case with the physical act of seizing. The metaphor thus implicitly “drags” intrinsic semantic properties from the source term to the target term. It can also be noted that the idea of passage from an initial state to a final one by the means of seizing is observed in this metaphorical meaning of *seize*, whose schematic semantic properties are the following:



In (9), by the act of seizing, which metaphorically involves the use of sudden military force, control of the Atlantic Ocean changes, and is transferred from an original source of control (initial state ‘A’) to another, that is, “the battalion” (final state ‘B’). This latter proves to be the final source of control when the act of seizing is performed successfully. In (10), by the act of seizing, which metaphorically consists of using sudden and violent force, power is transferred from one person, “Osiris”, to the other, “Seth”. In (11), by the act of seizing, which consists of using sudden military force, power is transferred from one person, “Mrs Aquino”, to the other, “military officers”. This idea of the passage, that is, the change from an initial state to a final one that occurs with *seize* (only if the act of seizing takes place) is summarized in the table below for (9), (10), and (11):

	Initial state	ACT OF SEIZING	Final state
(9)	Atlantic Ocean under the control of someone	using sudden (and violent) military force by the battalion	Atlantic Ocean under the control of the “battalion”
(10)	Osiris has power	using sudden (and violent) force by Seth	Seth has power
(11)	Mrs Aquino has power	using sudden (and violent) military force by military officers	Military officers have power

2.14.3.2 *The haptic and space metaphors*

Both metaphors may be part of the interpretation of some occurrences of *seize* (6 out of 35 metaphoric occurrences). The same haptic CONTROLLING IS TOUCHING conceptual metaphor is found in the following examples, in which *seize* refers to any other concept than “power”:

(12) *The only realistic question that poses itself is whether Britain can help to determine the how and the when of reunification. Mrs Thatcher could seize the high ground, providing strong leadership for a radical reassessment of Nato's role in the emerging new Europe.* (Corpus: 146, BNC_Written.txt at position 2072832)

(13) *Our truancy is defined by one fixed star, and our drift represents merely a slight change of angle to it: we may seize the moment, toss it around while the moments pass, a short dash here, an exploration there, but we are*

brought round full circle to face again the single immutable fact -- ... (Corpus: 163, BNC_Written.txt at position 5554850)

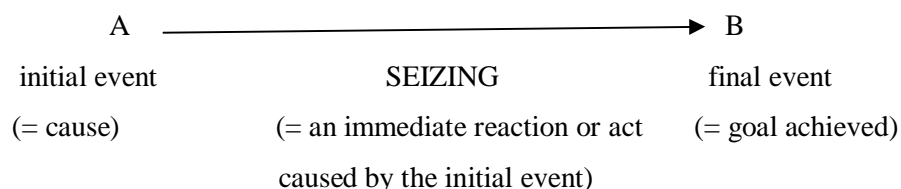
In (12) and (13), *seize* consists of “taking advantage of something”, that is, “acting quickly in order to use an opportunity that may not be available later” (based on Longman Dictionary online). In other words, “using an opportunity” enables the subject to be under control. In (12) for instance, the seized object is the abstract concept, “the high ground”, which refers to the advantage in a discussion. It implies that Mrs Thatcher quickly makes the decisions that are available on this occasion, these decisions, or Mrs Thatcher’s act, being able to reassess Nato’s role in new Europe. In (13), the seized object is the abstract term, “moment”, which suggests that the subject “we” needs to act on that particular moment, so that something can be achieved. The metaphor enables one to bring to light the quick “abstract” act that needs to be done, so that control of something can be achieved. The act has to be “quickly” performed, since control of the object can be taken at a particular moment only. Thus, space metaphor is also present in these two examples. Time is conceptualized in terms of space, in which an opportunity that is available at a particular moment is an opportunity that is close to us and that needs to be physically seized and under our possession, so that it can be under our control.

This “double” metaphor is also found with the phrasal verb “seize on” or “seize upon”, which means “take advantage of”, in the sense of “suddenly become very interested in an idea, excuse, what someone says, etc.” (Longman Dictionary online) and “using” or “taking advantage of” it, in order to achieve a goal. Let us examine the following examples:

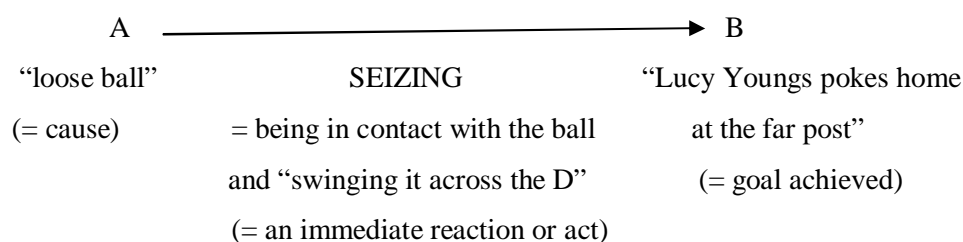
(14) *Sarah Bamfield **seized on** a loose ball and swung the ball across the D for Lucy Youngs to poke home at the far post. With Wimbledon wobbling Ipswich turned on the style. (Corpus: 156, BNC_Written.txt at position 360465)*

(15) *The Treaty of Versailles, imposing the loss of 27,000 square miles of territory and seven million inhabitants, was to be **seized upon** by Hitler as a national humiliation to be avenged. The Nazis seized control early in 1933. (Corpus: 157, BNC_Written.txt at position 2039751)*

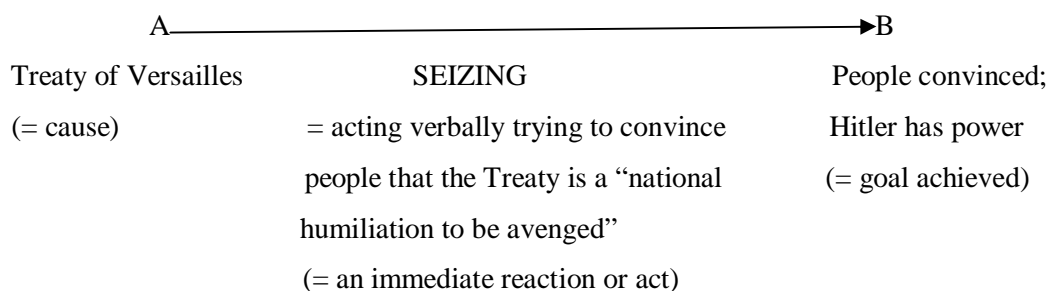
In (14) and (15), the reference of *seize on* implies that a previous act takes place that enables the activation of a reaction and another act to achieve a goal. The idea of the passage is therefore also present in this metaphorical sense of *seize*, whose schematic semantic properties are implicitly composed of three stages:



In this schematic structure, Initial event, ‘A’, is the cause that provokes the act of seizing that leads to the achievement of the final event, ‘B’. There is thus an idea of motion from ‘A’ to ‘B’ through the act of seizing (this implicit idea of motion from cause to goal through a causal act will be also found in manipulation verbs; see master dissertations). The schematic semantic properties of metaphorical *seize* help understand how meaning is structured. In (14), the loose way the ball has been thrown is the cause that provokes Sarah’s immediate act of being in contact with the ball and “swinging it across the D”, for Lucy Youngs to be able to poke home at the far post. Meaning is structured the following way in (14):



In (15), the Treaty of Versailles is the cause that provokes Hitler’s immediate act of convincing the population that this treaty is a “national humiliation to be avenged”. The treaty of Versailles is an excuse that enables him to react for the real goal of “having power” to be achieved. The metaphorical act of seizing can be considered an act of “mental” manipulation (see corpus-based analysis on *manipulate*). The meaning of (15) can be structured this way:



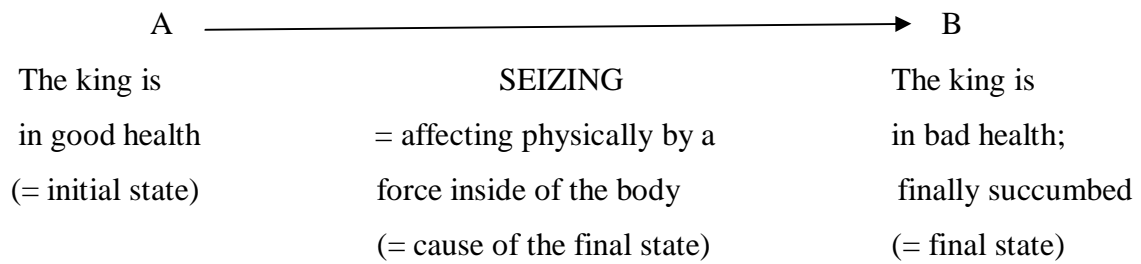
Furthermore, as in examples (12) and (13), the act or the reaction needs to be “immediate”, since the opportunity that will permit the goal to be achieved is available at that moment only, and thus needs to be “seized” when it occurs. Time is conceptualized as space, in which an opportunity that is available at a particular moment is conceptualized as an object that can be physically touched and seized. Once seized, the object is under our possession and control.

2.14.3.3 *Seize and physical state*

With this type of metaphor, *seize* consists of “suddenly being affected by an extremely strong feeling” (MacMillan Dictionary online) or physical pain, as in the following example, which is the only one in the corpus:

(16)...*the king had been **seized** with a virulent fever to which he had quickly succumbed.* (Corpus: BNC_Written.txt at position 5088032)

In (16), *seize* is part of the domain of physical state, in which “a virulent fever” is the subject responsible for the act of seizing, while “the king” is the object that has been seized. The act of seizing consists of “physically affecting with a pain”. Contrary to the literal and metaphorical meanings above, this act of seizing is “involuntary” and “non-agentive”, in the sense that it is not a person that is responsible for the act of seizing, but rather an element inside the object’s body. However, even if not agentive, this element (“a virulent fever”) is in a way personified, as it is considered as an agentive force inside the body, capable of provoking physical pain. Hence, the metaphor still implies the idea of violence and force. There is the idea of sudden and strong physical pain, which is reminiscent of the sudden and violent force used in taking power of something. Furthermore, the idea of the passage from an original state to a final one through the act of seizing is still suggested, the origin of this act being non-voluntary and non agentive this time, contrary to the haptic metaphor, in which the origin of the act is usually agentive and voluntary. Below is the semantic structure of this meaning:



This metaphoric use of *seize* is reminiscent of the one with *touch*, in which the act of touching provokes some physical sensations (see part 2.3.3.3 “Touch and emotional/mental state” in the corpus-based analysis on *touch*), in the same way as the act of seizing provokes physical disease.

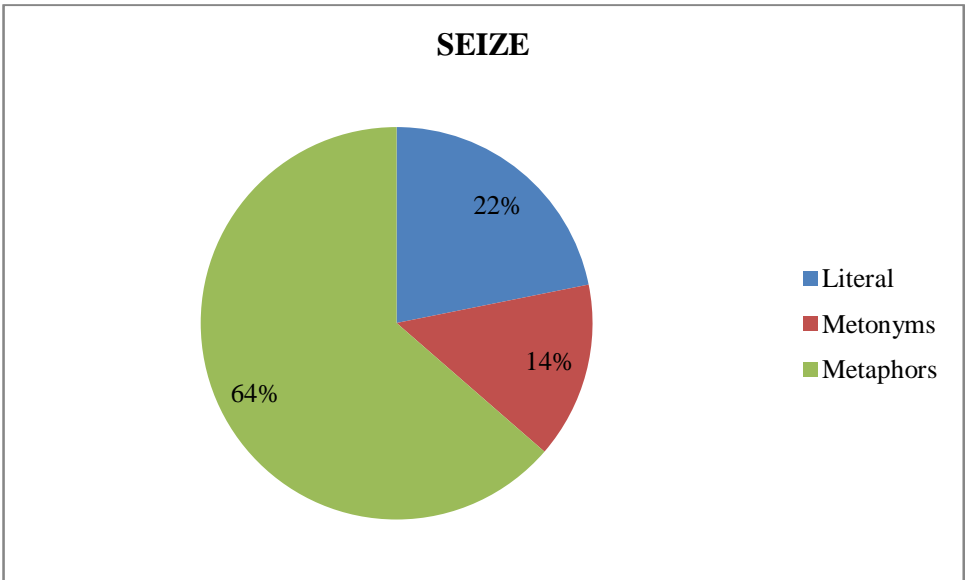
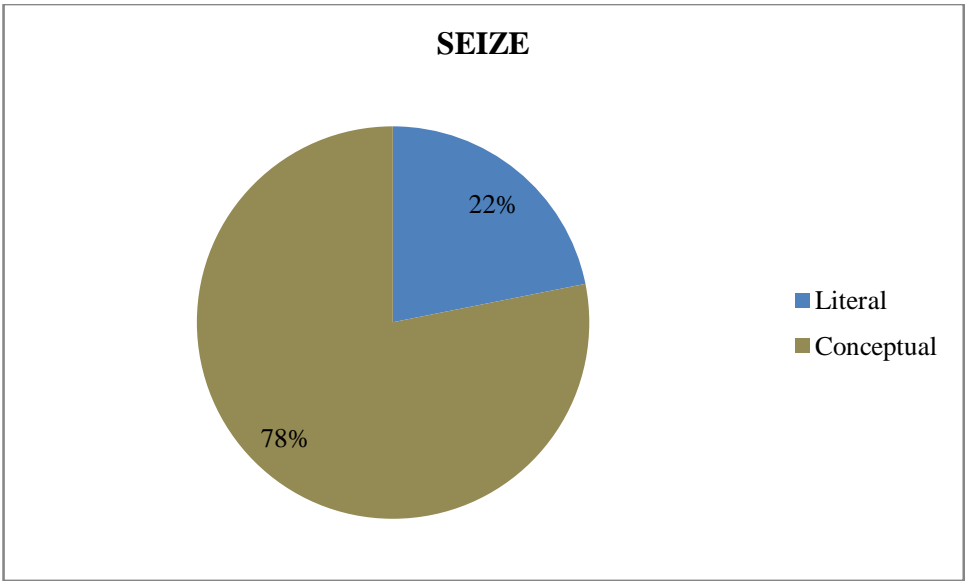
In this study, meanings of *seize* are interlaced together, since they have basic common properties. According to the metonymic or metaphorical conceptualizations of *seize*, different semantic features are highlighted.

With metonymy, the physical act of seizing is in focus to convey a “freeze frame” effect on the action, rather than the result of the action. This freeze frame effect enables the speaker to make the reader enter his mind and reveal (“dis-cover”) the importance the speaker gives to the act of seizing. According to the context, the speaker may underline some important features about the agent or his action (for instance the efficient role of the subject, or the power he has...), these important features being subjective and part of the implicit speaker’s state of mind, or thoughts.

Both types of conceptualization allow the reader to enter the speaker’s mind, so that implicit subjective semantic features come into light.

2.14.4 Table of results: written BNC Corpus on *Seize*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	12	0	12	0	0	0	0	
Metonyms	8	0	8	0	0	0	0	
Metaphors	35	0	35	0	0	0	0	
Mixed	0							
Metaphors from metonyms	0							
Metaphors within metonyms	0							
Others	0							
Total	55	0	55	0	0	0	0	



2.15 Manipulate

2.15.1 Literal sense

2.15.1.1 “Concrete object” manipulation

The first literal sense of *manipulate* consists of moving the hands or moving a concrete object with the hands in skillful manner in order to achieve something (4 out of 7 literal occurrences; see appendix 15), as in the following examples:

- (1) *For all artists working with acrylics, the choice and use of brushes can be very important. Brushes must give control, be flexible and easy to **manipulate**, and they must also withstand thorough cleaning without losing their shape. (Corpus: BNC_Written.txt at position 1173393)*
- (2) *... warehousing, problems which may intensify with future developments, the only reasonable concept appears to be to make provision for fixed fire fighting systems at heights beyond the range of jets **manipulated** from ground level. (Corpus: 196, BNC_Written.txt at position 4328419)*

In (1), the artist holds and moves the concrete object “brushes,” for the piece of work to be achieved. *Manipulate* indicates that the agent uses his/her hands and knows how to use them to achieve his/her goals. Here, some physical properties of the concrete object (“flexible”, “easy to manipulate”) allows a better use of the hands, which are the means which conveys “force” and physical skill to achieve this goal (see “brushes must give control”).

In (2), the jets are supposed to be manipulated by persons who know how to use them (for instance, fire fighters, in this case, even if it is implicit).

In these examples, the hands are the important means leading to the result. Furthermore, the agent using his/her hands is supposed to have experience in doing the action leading to the goal (repetition of the action implies knowledge, or the physical properties of the manipulated concrete object allows the agent to have it under control).

Below is the schematic semantic structure of the concrete object manipulation:

Cause	Action	Result
<ul style="list-style-type: none"> - EXPERIENCE - PHYSICAL PROPERTIES OF THE OBJECT 	<ul style="list-style-type: none"> - USE OF THE HAND(S) IN A CERTAIN WAY - PHYSICAL CONTACT BETWEEN THE HAND(S) AND THE CONCRETE OBJECT 	<ul style="list-style-type: none"> - GOAL ACHIEVED IF MANIPULATION IS SUCCESSFUL - CONTROL OF THE CONCRETE OBJECT

In an extended sense of the physical sense of manipulate, the manipulated object is not a concrete object with physical delimitations, but a substance (3 out of 7 literal occurrences).

2.15.1.2 “Substance” manipulation

- (3) *The long flats, like the rounds, offer versatility: much colour can be loaded on the brush and drawn out over the painting surface, or shorter dabs can easily be applied and **manipulated** without the brush hairs giving way. (Corpus: BNC_Written.txt at position 1177225)(dab = a small amount, a quick light pat as with the hands)*
- (4) *A pupil of Whistler, he derived from him a characteristic liking for low tones, which he **manipulated with** great dexterity to produce effects reminiscent of Rembrandt. (Corpus: BNC_Written.txt at position 1178358)*

In these examples, the idea of moving the hands in a skillful way is still implied, but the manipulated object in contact with the hands is a substance (paint). In both types of physical manipulations, the manipulated object is in focus—note the presence of the passive forms in (2) and (3). Below is the schematic semantic structure of the substance manipulation:

Cause	Action	Result
<ul style="list-style-type: none"> - EXPERIENCE - PHYSICAL PROPERTIES OF THE OBJECT 	<ul style="list-style-type: none"> - USE OF THE HANDS IN A CERTAIN WAY - PHYSICAL CONTACT BETWEEN THE HAND(S) AND THE SUBSTANCE 	<ul style="list-style-type: none"> - GOAL ACHIEVED IF MANIPULATION IS SUCCESSFUL - CONTROL OF THE SUBSTANCE

When the action is focalized instead of the manipulated object, it is unclear if it deals with concrete object or substance manipulation in the context:

- (5) *Sometimes it helps to add retarding gel to acrylic paint for this type of **manipulation**, but on this occasion the area involved was small, and I could work on it easily whilst the colours remained wet. (BNC_Written.txt at position 1169389)*

Please note that the act of “manipulating” is an “active” act, which requires active or skilful movements with the hand(s).

Other types of manipulation are found, but they are considered as metaphoric extension of the literal meanings.

2.15.2 Metaphoric use

2.15.2.1 The “computer” metaphor

- *Abstract language as real-world objects*

As found in physical manipulation, the manipulated object can be an entity deprived of physical delimitations (see 2.5.1.2). In this metaphorical extension, data, programs, network file structures, or any other conceptual task are conceptualized in terms of real-world objects. In the section above, the substance was considered as a “physical” object deprived of physical delimitations, as physical contact occurs between the hands and the object. The substance is part of the real world objects as it is present in physical space and can be “sensed” by the hands. However, with the computer metaphor, the manipulated object is an abstract object that cannot be sensed in the real/physical world. Let us examine the examples below:

- (6) *For these programs, and deterministic sections of others, much of the structure of our normal form will be redundant. If we wish to store and **manipulate** normal form programs in computers it will be worthwhile investigating this and other topics to discover how they can be made more compact. (Corpus: 195, BNC_Written.txt at position 4474810)*

(7) *Hildreth goes further and discusses mechanisms in online catalogues to support browsing, such as features for term selection and result manipulation and displays. (Corpus, BNC_Written.txt at position 4547133)*

In (6) and (7), the manipulated objects are “programs” and “online results” respectively. In computer science, target objects that are based on complex language syntax become visible objects: for instance file structures are represented by “folders”, files to be cancelled from the system are placed in a “trash can,” thus abstract manipulation becomes direct manipulation; with the computer metaphor, there is thus an interaction with real-world objects rather than with an abstract system (Greenberg 2004). The objects are still manipulated by means of the hands, which “move”, “point to”, and “control” them by means of the mouse.

This metaphor enables a complex language structure to “seem” easier to the user who is not used to it, as it “brings” our knowledge of the familiar and the concrete world into an unknown abstract world. The act of visualizing the objects of interest also enables the user to feel as if he/she was working “directly on the task” (Greenberg 2004). Heeter (1991) points out that direct physical control over the work environment puts the user in command and optimizes the see-and-point style of interface.

Computer metaphor is the most current type of metaphor that is displayed with occurrences of *manipulate* in the corpus (7 out of 8 metaphoric occurrences). The metaphoric use of “data manipulation” does not just reveal that abstract objects are cyberly moved by the means of the hands, like concrete objects can be, but also sheds light on the idea that abstract objects are “arranged,” “transformed”, and “modified.” Their original form “changes” when manipulation takes place, as is also the case with direct physical manipulation. Hence, computer metaphor is a type of “haptic” metaphor, in which the act of manipulating consists of “active touch”, that is, acting on an object in order to achieve a goal (see also corpus-based analyses on *hand* and *handle*). The notion of active touch and transformation through touch is conceptualized differently according to the context. These different conceptualizations of transformation with *manipulate* are analyzed below.

- *Manipulation and transformation*

o *Creation of something new from original material*

- (8) *...we restrict ourselves to the laws needed to translate finite programs to normal form. Other laws can be deduced from these laws, either by elementary manipulation, or by structural induction on normal forms. The laws we present here provide a clear description of the semantics of each construct. (Corpus, BNC_Written.txt at position 4394116)*
- (9) *As we shall see strange things, involving complex arithmetical manipulations, can happen to it in the process of transfer. Its weighting remains unchanged. Commonsense says it should be reduced. (Corpus, BNC_Written.txt at position 3051651)*

This interpretation of transformation occurring with *manipulate* is found in most of the occurrences (6 occurrences out of 7 of this metaphoric type; see appendix 15). In (8), data manipulation of already existing rules enables the creation of new rules. In (9), arithmetical manipulation consists of manipulating elements by combining or arranging them, so that a new value is created (from the original element). For instance, in arithmetic, additions involves combining numbers together, so that a new value is calculated based on the combination of these elements. Furthermore, a “relational database” consists of matching data by using common characteristics found within the data set (Wikipedia).

Manipulation, here, implies the creation of a new “form” from material already present in another form. Original separated elements have been put together and arranged into a meaningful structure. Manipulation is thus a “combining” device, which conveys meaning thanks to the creation of a new structure made from the original elements. Manipulation gives form to a new meaning derived from the meaning of each original element.

This seems to illustrate the metaphorical link we have in the Data Information chain in which pure data, raw material without inherent structure, is transformed into information, after data have been arranged, put together, and matched. Hence, information (meaningful structure) is created once raw material has been shaped and structured into a product that is useful to us (Hey 2004).

This sense of manipulation is also present in the example below:

(10) *As Hafter states, "The major conclusion that emerges from these studies is that the card catalog works. Even more importantly users are skillful at manipulating it for their own purpose." (Corpus, BNC_Written.txt at position 4533981)*

In (10), card catalog manipulation consists of first “choosing”, or “selecting”, each element/item of interest from an alphabetical listing made with a separate card for each item. Once each item has been chosen, information taken from each item is put together and arranged so that new, complex information is produced. Consequently, some information found in each item is supposed to be linked to the subject of interest. When all these pieces of information are put together, they form a more complex structure, which proves to be meaningful to “understand”, or “shed light on”, the subject of interest/our “own purpose.” This can be part of the work performed in research, as “researching” consists in collecting information (on a subject), or gathering and analyzing these pieces of information (based on the Free Online dictionary definition), “the primary aim being a greater knowledge or understanding of the subject under study” (based on the Answers.com definition).

This seems to illustrate the metaphorical link we have in the Information Knowledge chain in which the “accumulation” of information is converted into “a block” of knowledge. As pointed out by Hey (2004):

“...knowledge is *created* by *accumulating* information. Thus information is a necessary medium or *material* for eliciting and *constructing* knowledge.”

Sometimes, even if manipulation implies transformation, a new, different form is not produced, but rather a “modification of the original form” is.

- *Modification of the original material*

(11) *So long as politicians think that they are entitled to manipulate the money supply to win elections, the conditions for a thriving industry will not be obtained. (BNC_Written.txt at position 3935435)*

This is the only occurrence found with this interpretation of transformation in the corpus. In (11), manipulation of the money supply entails the money supply to be modified in accordance to our purpose, that is, in order “to win the elections”, in this context. The manipulated object (“money supply”) still exists but some of its elements have been transformed. Manipulation here is not a “combining and creating” device, but rather enables the modification of some individual elements/items that are part of the same structure, so that this structure is modified.

2.15.2.2 “Mental” manipulation

Only one occurrence deals with mental manipulation in the corpus. In (12) below, *manipulate* refers to the mental domain in which our system of values and thoughts are stocked. Mental values and thoughts are conceptualized as concrete objects that can be manipulated. This metaphoric interpretation still implies the modification of the “original” state, but there is a semantic feature that is added: individual elements have been modified by being replaced by other elements that are part of something else.

(12) *Intrigued by their free and easy life style, the Parker's find their long held values being easily manipulated.*
(Corpus: BNC_Written.txt at position 1085658)

In (12), the manipulated element, “values”, is still an abstract entity, but this time, it is part of the domain of “thought” and “feelings.” Somebody’s “values” is a system in which somebody’s beliefs, thoughts, and life principles are stocked, or put together. When values are manipulated, it means that some elements of this system (one or more thoughts, beliefs or life principles) are modified and replaced by others, usually picked up from another system. The original system of values has thus been influenced by another, so that some elements of the influenced system are collected and transferred into the original one. In example (12), the Parker’s system of values is influenced by other people’s systems of values in which “free and easy life style” is one of the component/element of their life principles. This component/element “free and easy life style” is then collected and transferred into the Parker’s system of values. When manipulation occurs in a “mental” domain, that is, in a domain in which feelings, thoughts, beliefs, and life principles are stocked, this metaphoric use of manipulation is called mental manipulation. Manipulation in this

case is then considered as influence, this latter being more or less “strong” according to the way influence occurs (by force, by free choice...).

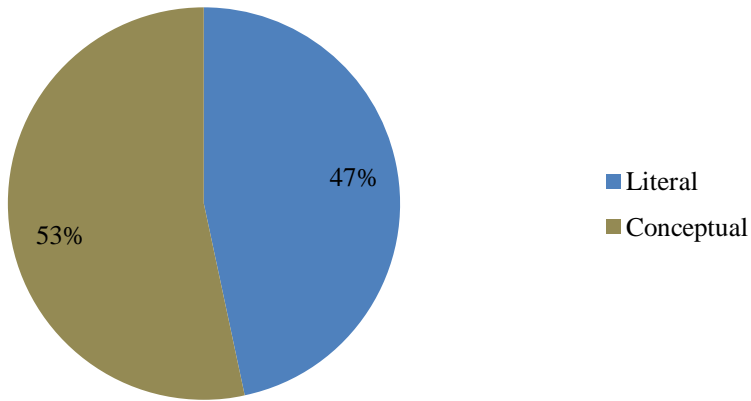
What the examples above show is that manipulation is a “combining and creating” device, which occurs in a lot of human activities (literary research, arithmetic, relational database...). The idea of “transformation” that is implied in metaphoric *manipulate*, has two intrinsic semantic features:

- transformation occurs by combining or arranging elements of the manipulated object so that a new object is created made of these combining elements.
- transformation occurs by modifying some individual elements of the manipulated object, so that the manipulated object as a whole is modified.

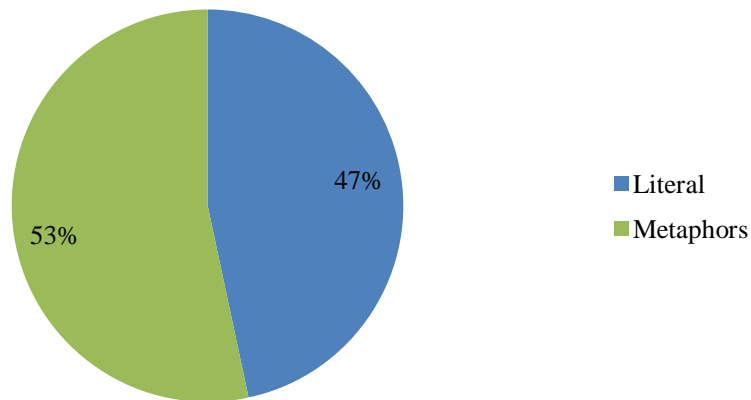
2.15.3 Table of results: written BNC Corpus on Manipulate

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	7	3	4	0	0	0	0	
Metonyms	0	0	0	0	0	0	0	
Metaphors	8	4	4	0	0	0	0	
Mixed	0							
Metaphors from metonyms								
Metaphors within metonyms								
Others								
Total	15	7	8	0	0	0	0	

MANIPULATE



MANIPULATE



2.16 Wield

2.16.1 Literal sense

The literal sense of *wield* consists of holding or handling something that is to be used, especially a weapon or a tool. Here is the only example in the corpus out of 4 occurrences:

- (1) *...on Sunday pregnant women taking part in the demonstration approached the bayonet wielding soldiers...*
(Corpus: BNC_Written.txt at position 2517057)

As it is the case with *handle*, *wield* implies physical contact of the object with the hand(s), but usually also knowledge of how to use this object. Indeed, in (1), “wielding” implies the soldiers know how to use the weapon they are holding.

It can be noted that the placement of the present participle “wielding” is in a prenominal position, which could confer an adjectival role on it, as if denoting a property of the soldiers instead of a current activity that they are doing. Consider example (a) below from the corpus, in which “wielding” is in a prenominal position, and example (b), in which “wielding” is in a postnominal one:

- (2) a. *the bayonet wielding soldiers*
b. *the soldiers wielding bayonets*

In (b), “wielding” has a verbal value and denotes the current activity the soldiers are doing. In (a), “wielding” does not have a total verbal value, when placed before the noun “soldiers”. Indeed, the prenominal position of the present participle “wielding” has an effect on the semantic interpretation of the phrase, since the soldiers are described as always wielding bayonet, as if it were one of their properties or characteristics. The interpretation of the phrase would thus be that the soldiers are always seen wielding bayonet, so that “wielding bayonet” becomes a characteristic or property of these soldiers.

2.16.2 Metaphoric use

The two metaphoric examples from the corpus have been studied as cases of haptic metaphor.

Consider the first one below:

- (3) *Having quizzed The Tree on the details of this scheme, it would appear that said burden of transferred pain is debited from the account of the guy at— or rather **wielding**— the sharp end of the original action, which seems only fair, I suppose. (Corpus: BNC_Written.txt at position 5619280)*

In this example, *wielding* is understood as doing something. It also conveys the idea of agentivity and responsibility. Someone wielding an action is someone that is doing an activity and acting deliberately, in the sense that he/she knows what he/she is doing and is thus responsible for the action He/she is accomplishing. When used with *wield*, actions or activity, that is, abstract entities, are conceptualized as physical objects that can be touched and handled. Furthermore, responsibility for an action is conceptualized as physical skill when touching or handling a physical object, since knowing what you are doing (knowing what the action consists in and its possible consequences) is construed as knowing what you are touching (knowing the physical properties of the object). These common properties found in the source and target domains are summarized in the table below:

SOURCE (“wield an object”)	TARGET (“wield an action”)
physical objects that are wielded or physically handled	abstract entities (actions, activities, etc.) that are done deliberately
physical skills when handling an object: <ul style="list-style-type: none"> - knowing what you are touching - knowing the physical properties of an object and its possible effects when using/touching it 	responsibility for an action: <ul style="list-style-type: none"> - knowing what you are doing - knowing what the action consists in and its possible effects when doing it

Such an example would therefore reflect DELIBERATE ACTION IS HANDLING AN OBJECT conceptual metaphor.

Consider now the second example from the corpus:

- (4) *US Secretary of State set up SEATO—the South East Asia Treaty Organisation—as a forum for discussion in South East Asia, in order to show it was not wielding its power without consultation, to try to help sort things out. (Corpus: BNC_Written.txt at position 3834394)*

“Wielding power” means here “exercising or using it”. Here again, when used with *wield*, an abstract entity, that is, “power”, is conceptualized as a physical object that can be touched and handled. As was the case with the example above, common properties found in both source and target domains are summarized here:

SOURCE (“wield an object”)	TARGET (“wield power”)
physical objects that are wielded or physically handled: - physical object that is under the possession of the one who handles it	abstract entities (power, authority, influence, etc.) that are exercised - abstract object that is in control of the one who exercises it

Such an example would therefore illustrate the EXERCISING POWER IS HANDLING AN OBJECT conceptual metaphor, or more generally, the CONTROLLING IS TOUCHING conceptual metaphor.

2.16.3 Interaction between metonymy and metaphor

The only example in the corpus in which interaction between metonymy and metaphor has been retrieved is of the “metaphor from metonymy” type. Consider it below:

- (5) *...a surgical military strike against targets surrounded by civilians, many of them in this case US citizens. Monroe doctrine lives on as Bush wields big stick. (Corpus: BNC_Written.txt at position 2564936)*

To understand how the expression “wield the big stick” is used metaphorically, it seems first necessary to explain the metonymic link between target and source domains. Indeed, this expression first appears to be metonymic, since the one who literally “wields big stick” refers to the one who has power (aggressive force). The link between the literal action or gesture of wielding a big stick and the corresponding resultant state of having power could date from ancient times, in which people having power used big sticks or whips to beat their slaves or people that were under their possession, command or control. That is the reason why powerful, stronger people, or people in a higher social position or hierarchy, are typically mentally represented as people wielding a big stick and ready to beat “weaker” people with whom they interact. In example (4), by being the President and thus by governing the United States, “Bush” is the one who has power. By the use of the metonymic expression “wielding big stick”, however, having power is connoted negatively as “being authoritative”, since people wielding big sticks were previously considered as people having absolute power, and, thus, the only ones being able, and authorized, to command and decide for people that were under their command. This example, therefore, primarily reveals the ACTION FOR RESULTANT STATE metonymy, in which the action of wielding a big stick metonymically refers to the resultant state of having power, or, as far as politics is concerned, being authoritative.

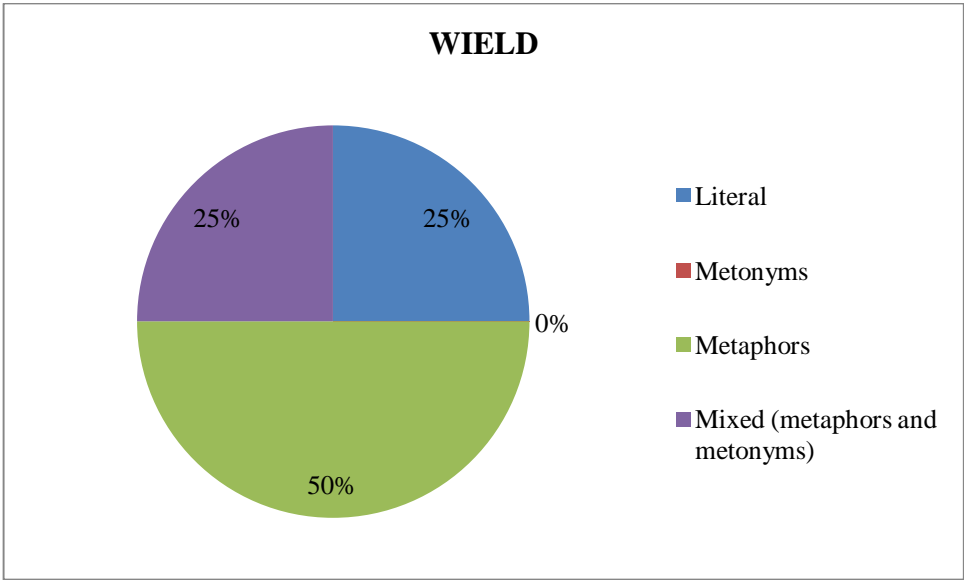
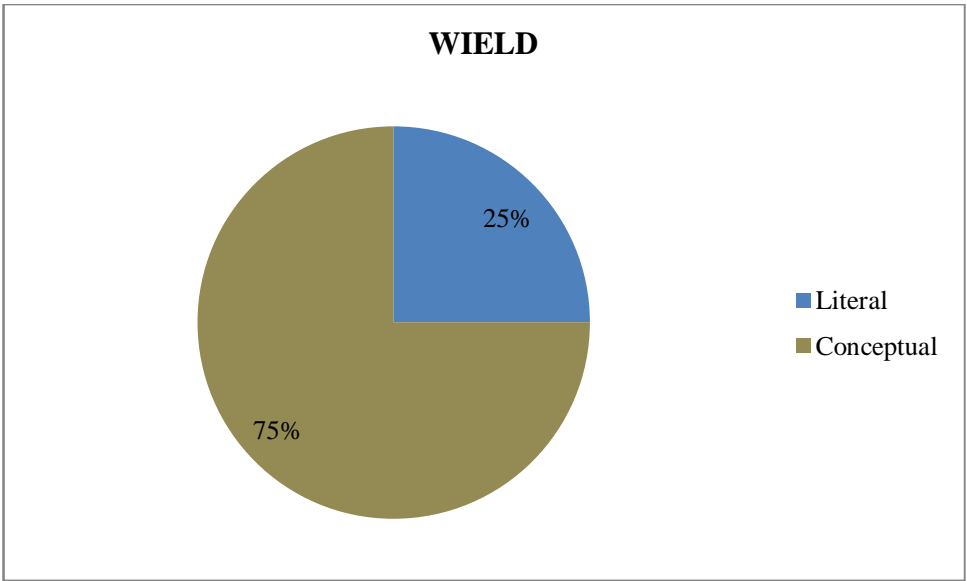
This metonymy helps understand the metaphoric link between the target domain of the Bush administration and, at the same time, Bush’s interaction with US citizens, and the source domain of both masters/slaves interactions in ancient times and the former Roosevelt administration. Indeed, as first highlighted before, the Bush administration is here metaphorically conceptualized as the way of governing in ancient times, in which “the masters” or people that had other people under their command were considered the overlord, and slaves were compelled to obey. By the use of this metaphor, the Bush administration is connoted negatively, as he is considered authoritative, as if he were the one who had absolute power, and acts as if he were the only one who commands, without taking US citizens’ opinions into account.

Furthermore, the Bush administration is here metaphorically conceptualized as the former Roosevelt administration, first because of the fact that the use of this metaphorical expression was first recorded during Roosevelt administration by Roosevelt himself, and then because of the reference to the “Monroe Doctrine” in the example, this latter exemplifying Roosevelt’s way of governing. The expression “Big Stick” describes a type of policy, in which display of military force, authoritarianism, or principle of dominance is used. It appears in language after Roosevelt first used it during his administration. The metaphorical expression seems to have been taken from an African proverb: “Speak softly and carry a big stick”, which means to use a non-aggressive tactic and act

with caution, but be ready to resort to violence when necessary. Roosevelt's policy of the Big Stick, which refers to a form of American hegemony, becomes his slogan and is associated with the Monroe Doctrine, which asserted the control of the Western Hemisphere by the United States (based on Britannica Concise Encyclopedia, <http://www.answers.com/topic/monroe-doctrine>).

2.16.4 Table of results: written BNC of *Wield*

	Total	Nominals	Verbials	Adjectivials	Adverbials	In idioms		
						Nom.	Verb.	Ad.
Literal	1	0	1	0	0	0	0	
Metonyms	0	0	0	0	0	0	0	
Metaphors	2	0	2	0	0	0	0	
Mixed	1							
Metaphors from metonyms	1	0	0	0	0	1	0	
Metaphors within metonyms	0							
Others	0							
Total	4	0	3	0	0	1	0	



3 COGNITIVE-BASED ANALYSIS OF THE RESULTS

3.1 General approach

What could be first noticed is that, there is strong indication for conceptual usages of these terms (see corpus analysis of *hand, handle, manipulate, palm, push, seize, touch, wield*). For instance, corpus analysis of *hand* shows that conceptual meanings of *hand* are mostly perceived, since 65% of the occurrences are used conceptually and 31% metaphorically. Such a predominance of conceptual uses are also found with events: *handle* (90% of the occurrences), *seize* (78% of the occurrences), and *touch* (74% of the occurrences).

It also appears that metaphor is more frequent than metonymy, even though metonymy is also frequent. Besides, it is sometimes difficult to distinguish metonymy from metaphor, so that the limits between the two are fuzzy. Indeed, in cases in which either of the metaphoric or metonymic interpretation is preferred, there are still cases of indeterminacy, which is based on metalinguistic elements, such as, the speaker/writer or the context of situation. Furthermore, mixed cases have been identified, in which both metonymy and metaphor are present in the elaboration of sense. The presence of both interpretations is based on a “mental logic” that needs to be found, so that the meaning of a target derived from both metonymy and metaphor can be explained.

3.1.1 Meaning and contact zone

The contact zone is based on the interaction between the focused body part (*hand, arm, finger, palm, elbow, knuckles, wrist, fingertips*) or manipulation events (*push, touch, handle, seize, manipulate, wield*) and the type of entities these would associated, or be in contact, with, so that generalization of meaning may be deduced.

1. When the focused term refers literally to a body-part, it may be in contact with:
- another body-part: the target has a passive or active role, depending on the role playing by the person the focused body part belongs to (agent or patient). If the person is an agent, the role played by the focused body part is active. If the person is a patient, the role played by the target is passive, as in the following corpus examples below:

(1) *...he shaded his eyes with one **hand**. (Corpus:149,BNC_Written.txt at position 5795326)*

(2) *But Winfield took her **arm** and pulled her up the stairs. (Corpus: BNC_Written.txt at position 5949090)*

- no entity:

- the focused body part has an active role, since it is used to make emblematic gestures, as below:

(1) *...You must make A, B and C with the **RIGHT** arm, but D can be made with either arm. (Corpus: BNC_Written.txt at position 504660)*

(2) *Fiona leant back against the rear of the dressing table, breathing hard, and waved one **hand**, wafting air over her face. (Corpus: 150, BNC_Written.txt at position 5658406)*

- the target is associated with an active verb (a transitive verb used intransitively) of which it is the subject, which causes a valency reduction (Dik 1989, 1997), and thus a metonymic interpretation of the verb, as in the corpus example below:

(3) *The man's **arm** went up and he threw the grenade through the open door. (Corpus: BNC_Written.txt at position 6015511)*

- the target is used as a spatial indicator/objective measure.

(4) *Holding her at **arm**'s length he stared into her face as if to memorise every detail. (Corpus: BNC_Written.txt at position 4907031)*

2. When the focused term refers literally to a manipulation event, the entity the focused body part may be in contact with are the following:
- a concrete object: when “active touch” is implied, the verb focuses on the manner by which the touching event is done. According to the degree of touch involved, effects on this object are produced, as follows:
 - *handle, manipulate, wield*: not only do these verbs imply physical touch, but also the know-how or skill of the agent when touching, so that touching the object is also controlling it.
 - *push*: not only does this verb imply physical touch, but it is also the force that causes the object motion, so that touching the object is also controlling it.
 - *seize*: not only does this verb imply physical touch, but it is also the force with which the touching event occurs, so that touching the object by using physical force is also controlling it.
3. When the focused term refers to a body part in the source domain of a metonymic mapping, the focused body part may be in contact with:
- another body-part:
 - the focused body part has a passive role, and refers to the zone of contact with a person this body part belong to, as in:

(5) *She put out a hand and touched the nearest **arm**, and the driver turned round quickly... (Corpus: BNC_Written.txt at position 5370292)*
 - the focused body part has an active role and focuses on the zone of contact with this body part, as in:

(6) *Your **fingers** twist the metal cap.(Corpus: BNC_Written.txt at position 5844767)*
 - concrete object:
 - the focused body part has an active role, since it is used as a substitute for the action; it focuses on the means or part of the body used to accomplish the action (see, for instance, *to hand* and *to finger*, in the corpus-based analysis of *hand* and *finger*).

- no entity:
 - in compound: the focused body part is usually a modifier, and indicates an endocentric type of relation with the head (for instance, a *arm band* is a “band”, even if it a particular type of band).
 - the focused body part has an active role, since it is the substitute for the agent of the action; it focuses on the bodily means or body part used by the agent to accomplish the action.

(7) *Unglazed and firmly closed against small **fingers**, these are the medicine cabinets containing invalid food, " Torch brand hydrogen, Altenburg's vaseline, swabs, bandages and splints. (Corpus: 175, BNC_Written.txt at position 3012662)*

- the target is used as a substitute for a concrete object itself; it focuses on the shape and function this object has (see the corpus-based analysis of *knuckles*, in which the concrete object *knuckles* itself is shaped like the body part *knuckles*, and placed on the body part *knuckles* as well). Conversely, when the focused term refers to a manipulation event in the source domain of a metonymic mapping, (see also below), the focused body part focuses on the function the concrete object has, and not on its shape (see the corpus-based analysis of *handle*, in which the concrete object *handle* is shaped differently).
 - the focused body part appears in a kinegram, in which the focused body part is both a literal description of a body part movement, but also a symbolic description of a communicative act (for instance *shake one's finger* in the corpus-based analysis of *finger*).
4. When the focused term refers to a manipulation event in the source domain of a metonymic mapping, the focused body part may be in contact with:
- an abstract entity:
 - the focused action is used as a substitute for other stages to which it is associated, so that the semantic roles of the participants are unusual, as in the following example, in which the subject agent is personified

and represented by an inanimate entity while the patient is represented by an abstract one.

(8) *Glass splinters **pushing** pain.* (Corpus: BNC_Written.txt at position 5327693)

▪ a substance:

- the target is part of an idiomatic expression in which the focused event represents a part of the whole event referred to by the expression. (PART FOR WHOLE metonymy), as in:

(9) *He wouldn't **touch** food or water.* (Corpus: 143, BNC_Written.txt at position 5431211)

▪ no entity:

- the focused event is used as a substitute for the concrete object itself; it focuses on the way or manner an object is used rather than its shape (see the concrete object *handle* which may be shaped differently)
- the target is used as a substitute for the action; it focuses on the way, manner an action is accomplished.

(10) *...but also impressed with the **handling** of his bowlers.* (Corpus: 134, BNC_Written.txt at position 429555)

(11) *Every fabric **handles** differently* (Corpus: 180, BNC_Written.txt at position 554450)

- in compounds: the focused event is a modifier; it has an adjectival role and describes an interactional-based type of relation with the head (see also the interactional-based attribute as part of real-world attributes, together with physical and functional-based attributes, in the discussion about categorization); indeed it gives information on how the object referred to by the head is used, and particularly how it interacts with the body part. (See for instance *touch-and-close fastener*, *touch typing* or *push button*).
- the focused event is used as a substitute for other stages with which it is associated (see *push* for instance, in the corpus-based analysis of

push), so that the semantic roles of the participants are unusual, as in the following example, in which the subject agent is personified, and represented by an inanimate entity.

(12) *There was sufficient daylight **pushing in** from outside...* (Corpus: BNC_Written.txt at position 4920124)

(13) *First, they cleared away the living grasses that valiantly **pushed at the surface**...* (Corpus: BNC_Written.txt at position 4911194)

5. When the focused term refers to a body part in the source domain of a metaphoric mapping, the focused body part may be in contact with:
- no entity:
 - the target refers to an abstract entity (see types of abstract entities below) with which common properties are found with the focused body part. The target may belong to different domains of experience, and refers to:
 - administrative division (see *insurance arm*)
 - degree of power and force (see *under one's high hand, with a firm hand, to be taken in hand, free hand*)
 - power/control; no power/no control (see *be in one's hand, in the palm of one's hand, out of hand*)
 - abstract proximity, such as cooperation with *hand in hand, hand in glove*, or mental support (indirectly by the use of the double metaphor with *at the prince's elbow, at hand*)
 - interaction, contact (see *in touch with*)
 - similarity/difference (see *in touch/out of touch*)
 - spatial indicator (see *eastern arm, at the prince's elbow, at hand, left/right hand*)
 - discursive indicator (see *on the one hand/on the other hand*)
 - small quantity (see *a touch of* which can be used with countable and uncountable nouns)
 - grammatical tense (*in hand, keep one's hand* in which might refer to the present; *in hand to, at hand to, on hand to*, which might refer to the near future)

- the target refers to a concrete object with which common properties are retrieved with the focused body part. These common properties are identified as below:
 - shape (see, for instance, *overlap arm, fingers of ivy, fish fingers, palm leaves*)
 - function (see, for instance, *fingers of ivy*)
6. When the focused term refers to a manipulation event in the source domain of a metaphoric mapping, the target refers to abstract events usually in contact with abstract entities: the use of the focused term allows one to associate the literal with the metaphorical events. Properties found in the literal event are mapped onto the metaphorical event. This latter has different meanings according to the semantic properties mapped (see 3.1.2. below):
- *handle*:
 - *be in charge of, be responsible for*: with this metaphoric meaning *handle* loses the “dynamic” semantic feature that is present with the literal meaning (see “active touch” implied with *handle*). Indeed, *handle* here is like a state verb, which refers to “fixed” properties of the subject.
 - deal with, master, have under control
 - stand (tolerate)
 - *manipulate*:
 - *manipulate* (abstractly): the objects that are manipulated are abstract and part of the computer language. They can be “moved”, “pointed to”, and “controlled” by the direct means of the mouse or the indirect means of the hands.
 - *transform* (abstractly)
 - *transform, change* (mentally)
 - *push*:
 - *push* (abstractly): the objects that are pushed are abstract.
 - *convince, make*
 - *cause*
 - *achieve*
 - *move* (abstractly): the objects that are “moved” are abstract.

- *seize*:
 - *take control* (suddenly and usually by using military force)
 - *take advantage*
 - *affect*: in this case, the subject of *affect* is a feeling or a physical pain.
- *touch*:
 - *deal with, talk about, concern*
 - *legally interfere*
 - *transform, change*
 - *attain* (abstractly): the objects that are “attained” are abstract (numerical value, abstract entity)
 - *provoke an emotion or feeling*
- *wield*:
 - *do* (deliberately)
 - *exercise, use*

According to the zone of contact between the manipulation term and the entity with which it is associated, some similarities and differences may be retrieved between meanings and within a same meaning:

- passive and active role of the focused body part when in contact with another body part in literal as well as metonymic interpretation.
- it can also be noted the unusual type of object of the manipulation event *push* interpreted metonymically in “glass splinters pushing pain”; it is an abstract object which would be expected to be found in metaphorical interpretation instead. As seen in the corpus analysis of *push*, syntactic structure is the consequence of this metonymy.
- the manipulation event has a personified agent in instances (10), (14), (15), interpreted metonymically:

*There was sufficient daylight **pushing** in from outside... (Corpus: BNC_Written.txt at position 4920124)*

*First, they cleared away the living grasses that valiantly **pushed** at the surface... (Corpus: BNC_Written.txt at position 4911194)*

*Glass splinters **pushing** pain. (Corpus: BNC_Written.txt at position 5327693)*

In these examples, *push* does not seem to be a dynamic event, since no motion is perceived when looking at daylight, grasses, and glass splinters in contact with the body. However, light “really” moves, grasses “really” grow, and glass splinters “intensify” pain by “really” going deeper into the body. These instances could thus reveal “real motion” (my term) as opposed to fictive motion occurring in an instance, such as, “The blackboard runs all the way to the wall” (add reference: Coulson 2000: 1531)

- in compounds, different types of relationship between modifier and head when dealing with a noun or an event (interpreted metonymically): a physical type of relation, such as the location (as in *arm band*, *wristwatch*), a functional or even interactional type of relation, such as the way of touching (as in *push button*, *touch typing*, and *touch-and-close fastener*).

3.1.2 Ternary relation and metaphorical interpretation of an event

As seen above, when the focused term refers to a manipulation event in the source domain of a metaphoric mapping, the target refers to abstract events usually in contact with abstract entities. These latter may also be conceptualized differently. For instance, “boundaries” in *push boundaries* may also be understood as a physical entity with physical delimitations, while “value” in “manipulate values” is understood as an abstract entity without physical delimitations; “values” may refer to fixed “mental” beliefs. As such, it seems necessary to decompose meaning of events, so that such conceptualizations may be explained. An event may have a ternary type of relationship between the cause that provokes the action, the action itself and the result of this action. Similarity-based properties between the source and target are based on these three stages and analyzed in the table below:

	Literal meaning			Metaphorical meaning
	Cause	Action	Result	
Handle		<i>touch with skill</i>	<ul style="list-style-type: none"> - <i>be in contact</i> - <i>control</i> - <i>know</i> - <i>be use to</i> 	<ul style="list-style-type: none"> - <i>be responsible for</i> - <i>master</i> - <i>stand</i>
Manipulate		<i>touch with skill</i>	<ul style="list-style-type: none"> - <i>be in contact</i> - <i>control</i> - <i>transform</i> 	<ul style="list-style-type: none"> - <i>work on with skill</i> - <i>transform</i> (abstract object, value, mental state) -
Push	<i>cause to move</i>	<i>use physical pressure of the hands</i>	<ul style="list-style-type: none"> - <i>move</i> (concrete object) 	<ul style="list-style-type: none"> - <i>convince, make to, get to</i> - <i>go beyond, move</i> (abstract object)
Seize		<i>grasp suddenly with force</i>	<ul style="list-style-type: none"> - <i>control</i> 	<ul style="list-style-type: none"> - <i>take control</i> - <i>take advantage</i> - <i>affect</i>
Touch		<i>have a contact with (a concrete object)</i>	<ul style="list-style-type: none"> - <i>be in contact with</i> - <i>know about</i> (a concrete object) - <i>focus on</i> - <i>have a physical reaction</i> - <i>transform</i> 	<ul style="list-style-type: none"> - <i>be in contact with</i> (a place, people) - <i>deal with</i> - <i>(legally) interfere</i> - <i>attain</i> - <i>provoke</i> (emotion, feeling) - <i>transform</i>
Wield		<i>touch with skill</i>	<ul style="list-style-type: none"> - <i>be in contact</i> 	<ul style="list-style-type: none"> - <i>do deliberately</i> - <i>use</i>

When analyzing the literal and metaphorical meanings of each verb, the following similarities are found:

- *handle*: the meaning corresponding to the result of the literal action is mapped onto the metaphorical meaning, and inferences are retrieved between *control* and *be responsible for*; and between *be used to* and *stand (tolerate)*.

- *manipulate*:
 1. the meaning corresponding to the literal action is mapped onto the metaphorical meaning, and inferences are retrieved between *touch with skill* (concrete object)/*touch with skill* (abstract object).
 2. the meaning corresponding to the result of the literal action is mapped onto the metaphorical meaning and inferences are retrieved between *transform* (concrete object) and *transform* (abstract object, such as, *values, mental state*).

- *push*:
 1. the meaning corresponding to the cause of the literal action is mapped onto the metaphorical meaning and inferences are retrieved between *cause (to move) by using physical force* and *to convince, get (to do something) by using mental or physical force*.
 2. the meaning corresponding to the result of the literal action is mapped onto the metaphorical meaning. The PATH schema is activated with the use of the preposition TO, so that there are inferences between a change from an initial to a final destination in space and a mental or abstract change; this latter implies a change from an initial state of mind to an opposite one, as in the inchoative event *push into despair*, which implies a change from the state “not be into despair” to “be into despair” due to the causative action.

- *seize*:
 1. the meaning corresponding to the literal action is mapped onto the metaphorical meaning, and there are inferences between *physically touch with force or in a sudden way* and *affect or touch emotionally and deeply*.
 2. the meaning corresponding to the result of the literal action is mapped onto the metaphorical meaning, and there are inferences between *take control of a concrete object* and *take control of an abstract object*; but also between *take control of (a*

concrete object) and *take advantage of (an abstract object)*, as in *seize the opportunity*.

- *touch*:

1. the meaning corresponding to the literal action is mapped onto the metaphorical meaning, and there are inferences between *be in contact with (a concrete object)* and *be in contact with (a place, a person)*; but also between *be in contact with (a concrete object)* and *attain (a value)*.
2. the meaning corresponding to the result of the literal action is mapped onto the metaphorical meaning, and there are inferences between *know about (something)* and *be in contact with” (a place, a person)*; between *focus on* and *deal with”*; between *provoke a physical reaction* and *provoke an emotion or feeling*; and between *transform (a concrete object)* and *transform (an abstract entity)*, as in *untouched investments*.

- *wield*:

1. the meaning corresponding to the result of the literal action is mapped onto the metaphorical meaning, and there are inferences between *be in contact with (a concrete object)*, as in *wield bayonet* and *do*, as in *wield an action*: having a contact with a concrete object makes the object “exist”, and doing an action makes this action exist as well; between *be in contact with (a concrete object)* and *exercise power or control* . Furthermore, there are inferences between *control (a concrete object)* and *do an action deliberately*, since “deliberately” may convey the idea of responsibility and success.

To summarize, the properties or elements of the literal meaning that are mapped onto the metaphorical meaning are indicated in the table below:

Lit. Met.	Cause	Action	Result
<i>Handle</i>			X
<i>Manipulate</i>		X	X
<i>Push</i>	X		X
<i>Seize</i>		X	X
<i>Touch</i>		X	X
<i>Wield</i>			X

3.1.3 Motivation of conceptual metaphor

The analysis above deals with metaphor motivation for the focused verbs of the analysis, and deals with the inferences, which could be retrieved when analyzing the three stages of an event more precisely. This part is based on a more general summary on metaphor motivation or explanations about how the body and the physical environment with which it interacts, is considered a basis of metaphorical structure. Three types of inferences may motivate metaphorical mapping and create metaphorical senses derived from literal prototypical bodily ones.

1. Physical-based features: these are real world-, gestalt-type features, such as size, dimensions, or shape, which are mapped onto the target; this latter represents a concrete object with physical delimitations, and is construed as a body part, so that both target and source share some common physical properties. This type of association is due to the influence of vision and how you personally perceive an object. In the examples below, this physical-based feature appears to be the shape, so that the target is construed as having the same shape as the body part:

(14) *There is beautiful scenery to be seen travelling to Malbork, a town on the eastern **arm** of the Vistula where there is a famous red brick Gothic castle, built in the 13th Century. (Corpus: BNC_Written.txt at position 140220)*

(15) *For he has this grace, that he is happy to eat fish **finger**s or Chinese takeaway or to cook the supper himself. (Corpus: 152, BNC_Written.txt at position 5838299)*

(16) *...Hear how the dawn wind whis-per-ing moves all the **palm** leaves, With silver and green in rice-fields bright patterns it weaves. (Corpus: BNC_Written.txt at position 525352)*

In (16), as seen in the corpus-based analysis of *arm*, *arm* designates a narrow and long extension of water, and is thus conceptualized metaphorically as the human body-part arm, because of their similar shape or common physical properties: narrow and long. In (17), *fish fingers* are also narrow and long. In (18), as seen in the corpus analysis of *palm*, the palm tree is composed of a central part that joins long and narrow leaves and is reminiscent of the body-part *palm*, which is the central part of the hand that joins the fingers together. Palm leaves also resemble fingers of the hand, since they are both long and narrow.

2. Functional-based features: these are features acquired through our experience of the real-world, and, more precisely, our interaction with physical objects. They refer to the way an object is used in the real world and imply knowledge of the objects that surround us. When such a feature is mapped onto the target domain, this latter represents an entity (physical or abstract) and is construed as a body part, so that the target and source “work” the same. This type of association is due to the influence of our experience of the real world or our bodily interaction with the physical environment. Here are some examples:

(17) *Tobacco-to-insurance group BAT reveals third quarter figures on Wednesday. A much improved performance from its insurance **arm** Eagle Star should push profits for the nine months over the £1bn mark. (Corpus: BNC_Written.txt at position 1403891)*

As seen in the corpus-based analysis of *arm*, *arm* here designates a division of the main firm, and is thus conceptualized metaphorically as the human body-part arm; their position and role in relation to the main element appear to be similar: they are a part of the main element and thus depend on this latter, but they are also active component of the main element.

Both expressions *on the one hand/on the other hand* and *left hand/right hand* expressing discursive and spatial opposition of two elements of the same type respectively,

are also conceptualized as spatial opposition of both hands because of the symmetrical position of both hands within the body.

Other examples are retrieved and summarized in the table below:

	Source	Target	Functional-based type of inference
<i>Overplay one's hand</i>	Poker player	criminal	Wrong attitude
<i>Nap hand</i>	Playing cards	Playing football	- game rules - attitude
<i>Go cap in hand</i>	Begging for money	Asking for money	Urge of money
<i>Hand over fist</i>	Climb a rope in a nautical context	Lose money	Manner of doing the action: constantly and rapidly
<i>Out of hand</i>	Hunting offhand	Doing something	Manner of doing the action: immediately
<i>Under one's high hand</i>	Height	Power, protection	
<i>Hand-outs</i>	Giving something from hand to hand	Distributing shares	Passage from one person to the other
<i>Hand over to</i>		Yield power to	
<i>First/second/third hand</i>	Passing down of an object from hand to hand	<ul style="list-style-type: none"> - Experience about an event passing on from somebody to the other - Passage of garments/goods from one owner to the other 	Passage of an entity

Target and source can also share both physical- and functional-based features, as in the following example:

(18) *To see some jolly neighbours cook
Down in their kitchen, like a lighted box
Beyond the fence, where over fox-glove, mint, and ribs of fern, the small dark
plain
Fingers of ivy graze my pane. (Corpus: 167, BNC_Written.txt at position
5860486)*

As seen in the corpus-based analysis of finger, the ivy stems are conceptualized as the fingers of the hand because of their similar shape (narrow and long), and also because of their “active” role. As the fingers of a hand, which are involved in active touch like grasping and manipulating, the ivy stems are active, since they are spreading all around.

Functional-based features may be subjectively mapped to a target according to the personal experience of the writer. The metaphor is therefore a way of revealing which personal value we assign to the target by associating it with the source (influence of experience). This type of association is due to the influence of our personal experience of the target. A personal subjective point of view can therefore be inferred. For instance, the functional property of agency assigned to the ivy stems with *fingers of ivy* is also a more subjective one, as it denotes the invasiveness of the plant all around the pane, which is perceived negatively by the speaker/writer. Furthermore, the functional property of control and power assigned to Gorbachev with *with a firm hand*, may also be a subjective property, as it denotes his authoritative way of governing and imposing his ideas on the other deputies, which may be perceived negatively by the writer. Finally, with the expression *go cap in hand*, the target concept of “asking for money to the International Money Fund” is construed as begging for money in the street because of the same functional property of urge for money. This example may also reflect a metaphor in which both target and source share some subjective property. Indeed, begging for money is usually perceived negatively, as it reveals the unsuccessful life of the one who begs for money, and so is perceived the act of asking for money by the speaker/writer.

Mapping of functional-based features may also be historically-linked. The type of association between target and source is then due to the influence of our cultural history, as in:

(21) ...a surgical military strike against targets surrounded by civilians, many of them in this case US citizens. Monroe doctrine lives on as Bush **wields** big stick. (Corpus: BNC_Written.txt at position 2564936)

(22) It is disconcerting, nevertheless, to read in a labor weekly, "Perluss **knuckles** down to growers", and then to be confronted with a growers' publication which states, "Perluss recognizes obviously phony and trumped-up strikes as bona fide". (Corpus: Brown.txt at position 5467607)

(23) Oil-field workers were a rough-tough lot. How could he exert authority over them- make them toe the line, as he had to- if he **knuckled** under to this small-town clown? "I'll get around to it a little later", he mumbled desperately. (Corpus: Brown.txt at position 7046202)

In (21), the target domain of the Bush administration and, at the same time, Bush's interaction with US citizens, is conceptualized as the domain of both masters/slaves interactions in ancient times, and former President Roosevelt's administration (see explanation of this example in the corpus-based analysis of *wield*). The comprehension of the metaphor depends on previous knowledge of American history and particularly of the way President Roosevelt governed the United States and the effect his administration had on American society. This example can also show the influence of our cultural environment, and, here, influence of American culture, since it deals with American society during the Bush administration. In (22), the target domain of Perluss's ruling is conceptualized as yielding to the growers. The comprehension of this metaphor depends on previous knowledge of English history and this particular event at that period. In (23), the target act of submitting to someone is conceptualized as a 17th-century habit of knocking under the table when defeated in an argument or other competitions, as the earlier Anglo-Saxon and Medieval English sense of bending the knee in respect or submission, or as the kneeling position or gesture of submission, with hands on the ground, knuckles down, according to the possible origins of this expression (see explanation of this example in the Brown corpus-based analysis of *knuckle*). Here again, the comprehension of this metaphor depends on previous knowledge of English traditions and practices during that period. This example also shows the influence of the cultural environment as well, and here influence of Anglo-Saxon culture, since it deals with common practices that were used in English society at that period.

3. Experience-based features: these are features acquired through bodily experience of the real world. When such a feature is mapped onto the target domain, this latter is construed as a body part or manipulation event, so that target and source share cause-and-effect types of relationships in everyday life. Primary metaphors (see the definition in the first part) are involved in such a mapping. Here are some examples:

(24) **Push** boundaries, take risks, and interweave unique colour schemes with subtle variations. Become really involved, so that you experience in full the profound emotional depths of colour. (Corpus: BNC_Written.txt at position 1135948)

(25) ...improving existing products, we also devote more than 50 per cent of our Research and Development resource to developing new products, **pushing back** the frontiers of technology. (Corpus: BNC_Written.txt at position 1904943)

In (24) and (25), *push boundaries* and *push back the frontiers* can be defined by the consequences walking along an unknown path implied, that is, go over the difficulties, look for the best way to achieve your goal and do not doubt but act and choose what you think could better enable you to achieve your goal. Experiencing something and knowledge about something are conceptualized as walking along a path. There is still a cause-and-effect link between target and source, since walking along a path implies pursuing a goal, that is, reaching a destination, discovering and then knowing places encountered along the path, passing through difficulties, and looking for the right way to follow to attain the desired destination, doubting and not being sure of what the right way is when the road divides itself into two or more other roads, choosing a way that you think could lead you to the desired destination.

(26) His philosophy took a long time to be appreciated, partly because he never **pushed** his own work, which was subsequently overshadowed by that of Wittgenstein. He was a quiet, modest man, easy going and uninhibited... (Corpus: BNC_Written.txt at position 3450825)

(27) The 17.5pc VAT rate on fuel bills would **push** families already "on the edge" into despair. (Corpus: BNC_Written.txt at position 3943151)

(28) International waste management company Attwoods **pushed** profits ahead more than 11 per cent in the six months to January after a good performance from key sectors of its US business. (Corpus: BNC_Written.txt at position 3965005)

From (26) to (28), abstract cause is conceptualized as physical force. There is still a cause-and-effect link between target and source, since physically pushing a patient implies using force to make the patient move from an original position to a new one, and using forward force towards a particular direction, so that the patient moves forward in this same direction (same direction between the agent's force direction and the patient's final movement). Despite this, abstract cause can be described differently according to the context (see the corpus-based analyses of *push*), which can also be retrieved noted in these properties. Indeed, in (26) convincing someone to accept his work implies using the correct/appropriate arguments (or mental force, or manipulation) so that the patient accepts his work. By getting accepted, his work moves from the abstract position of "not being accepted" to "being accepted", that could also imply the patient's change of mind regarding his work, and thus their abstract motion from a negative or neutral state of mind to a positive one. The forward movement is also present, since the idea of getting his work accepted by putting it under attention and highlighting the positive value of it can be derived from the effect produced if seeing someone placing a file forward, that is, before other people's files in a linear pile of files in a case of selection. Indeed, this would imply that his/her file can be read or put under attention at once, before the other people's files.

In (27), the force is an event, which is the high value of the VAT rate, the rapid increase of this rate is conceptualized as physical force, and the abstract motion of the patient from the state of "not being desperate" to "being desperate" is conceptualized as physical motion into a container. In (28), the force may still be considered an event, since it is the company's activity and good performance that allows an increase of profits, and makes the patient move from one numerical value to another.

Other examples are retrieved and summarized in the table below:

	Source	Target	Experiential-based type of inference
<i>Go hand in hand, hand in glove</i>	Hands being linked together; hand in a glove	Being linked, sharing some relations, cooperating	Idea of mental proximity, closeness, love and friendship may result in physical proximity.
<i>At one's elbow</i>	At a close distance to the hand or elbow	Mental proximity	
<i>At hand, at one's elbow</i>		Physical proximity	Physical proximity is the consequence of being in the Body Space (touching zone of the hand and the elbow)
<i>With a firm hand</i>	Strength used when holding something in one's hand	Authority	Authority is the effect produced by seeing an adult holding a child's hand firmly for this latter not to escape or remain uncontrolled.
<i>Under one's high hand</i>	Height	Power, protection	Power and protection are the effect produced when seeing parents putting their hand on their child's head or patting the head of their child to reassure or protect them; a bigger hand also recovers better the thing that is placed under it, so that this latter is protected.
<i>Be taken in hand</i>	Be taken in hand	Be guided	Being guided is the effect produced when seeing an adult literally taking a child in hand and led him/her to the desired destination.
<i>In hand, on hand, come to hand, keep one's hand in, be in one's hand, hold in the palm of one's hand, in the palm of one's hand, get out of hand</i>	Holding something in one's hand	Control	Control is the effect produced by something which is held in one's hand

<i>Old hand</i>	Aging	Experience, competence, ability	Experience usually comes with age.
<i>To be touched by the sun</i>	Being affected with headache and dizziness	Being mad	Negative mental reactions, inconsistency are produced by physical affections.
<i>A touch of</i>	Touching	Small quantity	Idea of small quantity is the effect of the small physical contact interaction when passively touching an object.

One might note that physical and functional types of features are the ones which may be used to distinguish one category from another (see the discussion about categorization in the first Part, and especially the Labov’s experience about categorization of household receptacles). As suggested by Wierzbicka (1985), physical- and functional-based attributes that are used in categorization do not deal with inherent properties of the object itself, but rather with the role of the object within a particular culture. Here, the “objects” usually deal with abstract entities (see for instance *arm* in *insurance arm*) to which physical- and functional properties of physical body parts (see for instance, the shape of the body part *arm* and its “function” within the body) are assigned through language by means of metaphor; the assignment of these features to more abstract entities, are bodily- and cognitively-based features (see for instance the cognitive ability to distinguish gestalt) and shows how concepts are conceptualized in a particular culture; it may vary from one culture to the other. These may be, however, personal-based features, not necessarily shared by a whole community in cases of subjective functional-based features, as in *with a firm hand*, which may be based on more personal beliefs about politics; they may also be historical-based features only shared by the members of the same culture. Conversely, experiential-based features are usually universal, or not culturally-based, and show correlations between source and target in basic physical experience (basic sensory-motor, emotional and cognitive experiences, by means of correlation-based or primary metaphors).

The assignment of these features shows how the body interacts in language.

According to meaning interpretation, different types of bodies will be distinguished in language.

3.1.4 The “bodies” of language

Three types of “bodies” in language have been distinguished based on what is found in the corpus.

3.1.4.1 *Physical body*

The body is used to perform an action. More precisely, the “physical” use of the body is required, for the action to be accomplished. The verb represents a “physical” event, whose performance requires a literal use of the body, or depends on gestures. This type of body will be represented in different ways according to the grammatical category of the term that is analysed:

- implicit use of physical body parts when the body-part term is a verb, that is, when it deals with *handle*, *manipulate*, *push*, *seize*, *touch*, and *wield*, as in the following examples taken from the corpus analyses (see the previous part):

(29) *Women could drum and **handle** pistols and the soldiers' swords were not particularly long or heavy and would have presented no problems. (Corpus: 167, BNC_Written.txt at position 3822011)*

(30) *Brushes must give control, be flexible and easy to manipulate, and they must also withstand thorough cleaning without losing their shape. (Corpus: BNC_Written.txt at position 1173393)*

(31) *Two pull and **push** a cart piled with props and belongings. (Corpus: BNC_Written.txt at position 5463969)*

(32) *(Guil **seizes** the player violently.) (Corpus: 161, BNC_Written.txt at position 5468966)*

(33) *...He **touch**ed Pugwash on the arm. (Corpus: 151, BNC_Written.txt at position 4992732)*

(34) *...on Sunday pregnant women taking part in the demonstration approached the bayonet **wield**ing soldiers... (Corpus: BNC_Written.txt at position 2517057)*

In all these examples, the hands are understood to be implicitly used while the actions of “handling pistols in (29), “manipulating brushes” in (30), “pushing a cart” in (31), “seizing the player” (in 32), “touching Pugwash” (in 29) and “wielding bayonet” in (34)

are performed. The hands are thus the salient body parts used with these physical events, which implicitly require bodily movements to be made, so that they can take place. In some cases of *push*, though, the hands are clearly not involved, since physical contact between two or more elements does not occur, as in:

(35) They **pushed** themselves flat against the tunnel wall. (Corpus: BNC_Written.txt at position 5390492)

Even though the physical use of the hand is usually implicit with these verbs, it can be explicit as well, as in the following examples in which *touch* appears:

(36) ...I wanted to reach out my hand and **touch** them. (Corpus: 184, BNC_Written.txt at position 5409656)

(37) She put out a hand and **touched** the nearest arm, and the driver turned round quickly. "What are you doing here?" he shouted. (Corpus: 156, BNC_Written.txt at position 5370272)

- explicit use of physical body parts when the body part term is a noun, that is, when it deals with *arm, elbow, finger, fingertips, hand, knuckles, palm, and wrist*.

3.1.4.2 Partly-fictive body

- the physical body is used (or could be used) while an event that has a symbolic or figurative meaning, is performed. More precisely, the physical use of the body accompanies an event that can be understood and performed without any bodily activity to occur, as is the case with kinegrams (Burger 1976, 2007; also called “somatism”: Fleischer, 1982) or metaphorical gesture. A kinegram has two meanings: a literal one that refers to the description of a body called “somatism” (Fleischer 1982), and a symbolic one which refers to the description of a communicative act. According to Burger (in Maché 2010), both meanings are co-instantiated, so that the expression describes both the body part movement and the communicative act simultaneously. This is an uncommon situation, since idiomatic meaning usually suppresses the literal one (also Langlotz 2006, in Maché 2010). In the corpus however, it deals with a written context, in which no

physical or actual movement of the body is seen. The expression *shake one's finger* is a substitute for its symbolic meaning only, that is, “to warn” or “to disapprove”, so that only the metonymic meaning is present (GESTURE FOR ACTION conceptual metonymy). According to the context, the actual movement may also be performed. Indeed, in a context such as the one found with the expression *give the finger*, this latter encompasses both meanings simultaneously because the written context is based on the description of an actual situation in which the literal gesture of giving the finger is made. Both literal and metonymic meanings are thus present. Because of the presence of both meanings, a problem of classification is created: these types of occurrences may be classified in the literal and metonymic meaning. Furthermore, regarding the metonymic interpretation, the presence of the GESTURE FOR ACTION conceptual metonymy is questioned. Indeed, both literal and symbolic meanings are idiosyncratic and describes the same concept in a different way; contrary to the conceptual meaning, literal meaning focuses on the physical or spatial description of the concept, so that it deals with a case of periphrasis (see the first Part). However, we consider such a type of periphrasis metonymic, or more exactly, periphrastic metonymy (see the first Part). For instance, the expression, *to shake one's finger*, whose symbolic meaning could be paraphrased by *to disapprove*; but this disapproving event could in some cases be accompanied by the literal gesture of shaking one's finger as well. In the corpus however, the example in which this expression appears, seems to refer to the symbolic meaning only, and the gesture does not seem to be made simultaneously, so that it has been identified as the GESTURE FOR ACTION metonymy. Below is this example:

(38) *As a rule, he prefers to shake his **finger** at men as they move by wrong paths from the cradle to the grave (Corpus: 147, BNC_Written.txt at position 1329549)*

Other instances of kinograms, which have been interpreted as GESTURE FOR ACTION metonymies, are identified in the corpus, as in below:

(39) *...suffering from quite stupendous hangovers incurred through the intake of near-fatal levels of alcohol the night before, and their subsequent professional careers sternly **finger**-wagging at any member of the general public who dares to consume over the course of a week what they themselves had been perfectly happy to sink during the average evening. (Corpus: 172, BNC_Written.txt at position 5751985)(= to warn)*

(40) **Fingers** are crossed that huge spending cuts will spare capital projects (road, rail, London tube, for example) that would create -- or at least protect -- jobs. (Corpus: 149, BNC_Written.txt at position 1430469)(= to wish, hope)

(41) SYRIA yesterday denounced the assassination of the Lebanese President, Rene Muawad, 17 days after he took office, and pointed the **finger** of suspicion at General Michel Aoun. (Corpus: 154, BNC_Written.txt at position 2125085)(to accuse)

(42) I must hold my **hand** up and say that their goal was down to me. (Corpus: 187, BNC_Written.txt at position 328416)

(43) Crabbe asks rhetorically why no-one raised a **hand** to help Grimes's workhouse slaves, but comments that all they ever said on hearing of the children's misery was -- Grimes is at his exercise". (Corpus: 156, BNC_Written.txt at position 1318108) (= to intervene, react)

To clarify, the meanings that are associated with the kinegrams above, are identified in the table below:

Kinegrams	Physical/literal meaning	Symbolic meaning
<i>Shake one's finger at someone</i>	literal gesture of shaking one's finger	<i>disapprove</i>
<i>Finger-wag at someone</i>	literal gesture of finger-wagging	<i>warn</i>
<i>Fingers are crossed</i>	literal gesture of crossing the index and the middle finger	<i>wish, hope (that something will happen or not happen)</i>
<i>Point the finger of suspicion at someone</i>	literal gesture of pointing the finger at someone	<i>accuse someone</i>
<i>Hold one's hand up</i>	literal finger of holding one's hand up	<i>react, intervene</i>
<i>Raise a hand</i>	literal finger of raising a hand	<i>react, intervene</i>

According to the context in which the kinegram appears, this latter has a literal, conceptual or both literal and conceptual meanings:

- in a written context, no gesture can be made simultaneously, so that only the symbolic meaning is identified. The presence of a body part in the expression, though, confers on it a conceptual meaning, and, more exactly, a metonymic one, in which the literal gesture of shaking one's finger at someone for instance stands for the corresponding act of disapproving what

this person is doing, and thus reflects the GESTURE FOR ACTION conceptual metonymy.

- in a verbal context:
 - only the gesture is made without speech. The gesture, though, means something by itself, and the hearer (that is part of the same community than the speaker) understands what it means. It thus deals with an emblematic gesture, and the only use of the literal gesture confers on the expression a literal meaning, as in:

(44)...*I did see one with bright belligerent eye
Gaze from a doorstep at the sky
And give the **finger**, with both hands, to God...*(Corpus: 166, BNC_Written.txt at position 5861803)

The expression “give the finger” is considered literal, since it is hard to find a corresponding verb that would explain the symbolic meaning of the expression. Furthermore, it appears that this expression appears in a physical description of a scene (see “see”, “with both hands”) in which speech does not seem to be produced.

- both the gesture and the utterance of the phrase are produced. It deals with a co-verbal gesture and both the literal and the symbolic meanings are identified. The fact of using a kinegram instead of the direct use of the corresponding verb shows that it has both a literal and a metonymic meaning. What we have called “the partly-fictive body” touches on this particular case, in which both gesture and speech are produced, so that both literal and conceptual meanings are present simultaneously.

In the corpus-based analysis, the body part term that is part of the kinegram, has been classified according to the preferred interpretation.

An example of metaphorical gesture is the one that could accompany the utterance of the expression *on the one hand/on the other hand*, as in the following example taken from the corpus of *hand*:

(45) *On the one hand, the unique group identity of a relatively marginal population is revitalised from within and the politics of multiculturalism are advanced. "But on the other **hand**, at the same time, the minority is likely to become more integrated into national life, because short of reaching total political independence, a high level of assimilation seems to be a prerequisite...* (Corpus: 189, BNC_Written.txt at position 960513)

Coulson (2005: 1522) refers to this expression as “an excellent example of an entrenched metaphor, a phrase whose primary meaning is the figurative meaning in which the speaker highlights a contrast between two ideological positions”. While presenting these two positions to the listener, the speaker may make a stereotypical gesture of upturning the palm of the left hand during the utterance of “on the one hand” and upturning the palm of the right hand during the utterance of “on the other hand”. By using the physical body, or by gesturing while presenting opposite abstract ideas in the discourse, the speaker associates the domain of abstract logic to the domain of physical space in which the body moves and interacts with physical objects and body parts. Indeed, Coulson notes (2005: 1522):

...subsequent reference to a given idea in question can be made by gesturing towards the particular region of space initially associated with that idea. In this idiom, two propositions map onto the bilateral symmetry of the body so that in the blend one of the speaker’s hands (say, the left) indexes the first proposition, while the other hand indexes the second proposition. The body thus becomes the context for articulating the incompatibility of the two propositions by presenting them in adjacent positions in time and space.

As such, the hands are a symbolic means of representing conflicting ideas without the speaker and the hearer being aware of the blending of the body and argumentative positions.

Another example of metaphorical gesture could be present in a situation, such as the following example, which appears in the corpus-based analysis of *push*:

(46) *Warsaw Pact nations take advantage of our February meeting in Ottawa, where we will launch the Open Skies negotiations, to give a further **push** to the Vienna talks on conventional forces. I invite Allied governments to consider establishing a Nato Arms Control Verification Staff. (Corpus: BNC_Written.txt at position 2476016)*

In such a situation, while uttering this phrase, the speaker may thrust his/her fist in a pushing motion away from the body. Here, as well, by gesturing while explaining a fact, the speaker associates the domain of abstract concepts to the domain of concrete objects in physical space.

- the physical body is used, but the body part term does not correspond to the real part it is supposed to refer to, as in the following examples:

(47) *Unglazed and firmly closed against small **fingers**, these are the medicine cabinets containing invalid food, " Torch brand hydrogen, Allenbury's vaseline, swabs, bandages and splints. (Corpus: 175, BNC_Written.txt at position 3012662)*

(48) *Having completed a tour of the museum, Elisabeth and Svend found themselves back in Svend's office, where fresh coffee had been placed by an unseen **hand**. (Corpus: 163, BNC_Written.txt at position 4854310)*

In both examples, the body parts fingers and hand refer to the persons they belong to and not the body parts themselves, so that these examples have a metonymic interpretation. Even if the targets (the persons) use these body parts to perform the implicit action of opening the medicine cabinets in (37) and the explicit action of placing fresh coffee in the office in (38), both body parts clearly designate the persons as a whole (see for instance the action “placed” in (38) that is agentive and thus requires a human agent as a subject). The use of the metonymy shows that these body parts are the salient parts that are useful for the performance of the action.

3.1.4.3 Fictive body

- The physical body is used as an attribute that allows a subcategory to be distinguished from the whole category, when used as a modifier in a compound. It has an endocentric type of relationship with the head in most cases, so that it creates a subordinate level category inside the basic level one represented by the head. Below are some examples extracted from the corpus-based analyses of *arm* and *wrist*:

(49) *A trickle of returning Romanian dissidents, wearing **arm** bands and rallying behind the National Salvation Front, have arrived in the capital. (Corpus: BNC_Written.txt at position 2714069)*

(50) *...His fishy tale of finding a missing gold **wristwatch** inside a cod's stomach appears to be a wind-up. (Corpus: BNC_Written.txt at position 273100)*

When an event is involved, it may also be used as a modifier, and has endocentric types of relationships with the head. It also allows the creation of a subordinate level category inside the basic level one represented by the head, but in a more dynamic way, since the attribute that distinguishes this subcategory from the main one is an interactional type of attribute, which describes the type of gesture made when using the object represented by the head. Below are some examples from the corpus-based analyses of *push* and *touch*:

(51) *The passenger lift, first entered from the right-hand lobby in the ground floor hall, serves the three main floors, and is controlled by a fully automatic set of **push** buttons at each floor so that the car can be called or dispatched from any of the main floors. (Corpus: BNC_Written.txt at position 3020995)*

(52) *The blinds can be fitted on to a wooden batten with **touch-and-close** fastener for easy removal... (Corpus: 148, BNC_Written.txt at position 655655)*

- The physical body is used as a source from which some features are mapped onto a target entity. There is thus a metaphorical association between target and source. Below are some examples:

(53) *To see some jolly neighbours cook
Down in their kitchen, like a lighted box
Beyond the fence, where over fox-glove, mint, and ribs of fern, the small dark
plain
Fingers of ivy graze my pane. (Corpus: 167, BNC_Written.txt at position 5860486)*

(54) *...provided Mozart with a vehicle for his overwhelming genius, not least in those two miraculous finales, to Acts Two and Four, where formality of design goes **hand** in hand with the dramatic unfolding of the story, inspiring the composer to create some of his most complex structures. (Corpus: 156, BNC_Written.txt at position 1295682)*

(55) *Pergamon Press, owned by Robert Maxwell, **handled** publishing in Britain. (Corpus: 145, BNC_Written.txt at position 2483267)*

(56) *...Hear how the dawn wind whis-per-ing moves all the **palm** leaves,*

With silver and green in rice-fields bright patterns it weaves. (Corpus: BNC_Written.txt at position 525352)

Even if considered a conceptual meaning, metonymical meaning appears to be an “in-between” meaning between physical and symbolic meanings. What may be noticed is that metonymic meaning is associated with both partly-fictive and fictive bodies in written and spoken contexts (when gesture is not made), as exemplified by kinegrams, such as *shake one’s fingers*. On the contrary, literal and metaphorical meaning associate only one type of body with one type of context, as shown in the table below:

(Types of Meanings)	(Types of) Bodies		
	Physical	Partly-fictive	Fictive
Literal	- written - spoken - gestural		
Metonymical		- written - spoken	- written - spoken
Metaphorical		- both spoken and gestural (at the same time)	- written - spoken

This in-between metonymic meaning in relation to literal and metaphorical meaning leads to the creation of a semantic scale of meaning.

3.1.5 A “semantic scale” of meaning

First, syntactic structures may help generalize on meaning. For instance, consider the example below:

(57) *I held my father's **hand** at first and we danced together.*

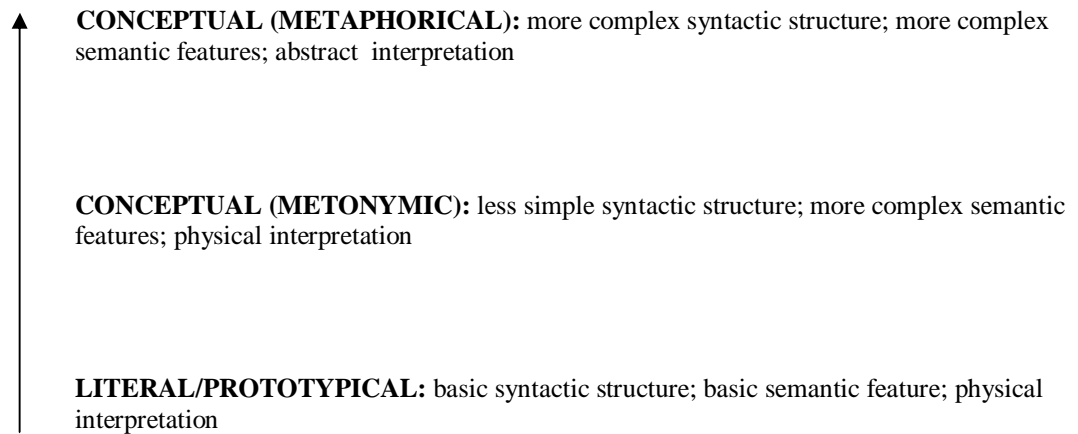
(58) *It had long been believed that he who held the Tower, held London in the palm of his **hand**.*

In (57) *hand* is interpreted literally and appears in a simple syntactic structure, since its meaning interpretation is based on the word *hand* only. In (58), it is interpreted metaphorically and appears

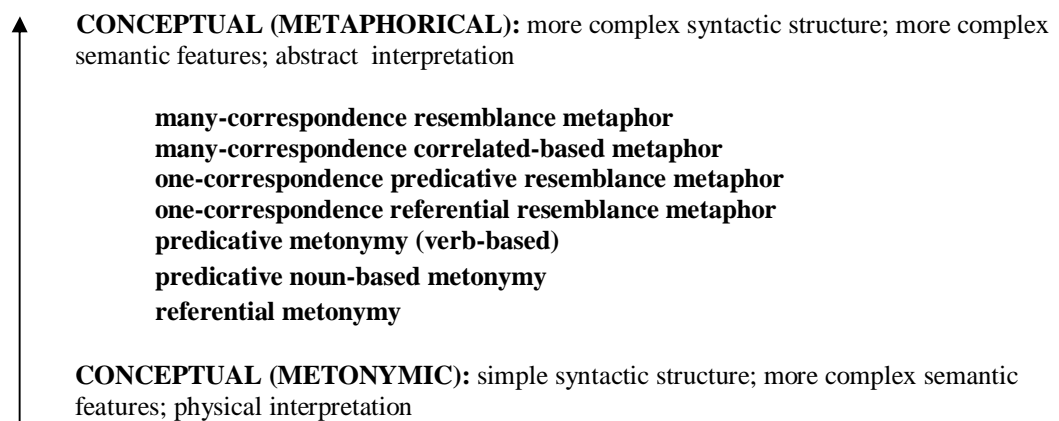
in a complex syntactic structure, since colligated with other words with which it forms an expression; as such, meaning interpretation of *hand* depends on the other elements of the prepositional phrase “in the palm of”, with which it forms the expression *in the palm of his hand*. We assume that more prototypical meanings appear in simpler syntactic structures, while less prototypical meanings appear in more complex structures. Furthermore, words appearing in more complex syntactic structures are expected to be composed of more semantic features, which may be identified through meaning “decomposition” by the means of simpler elements. When analyzing the levels of categorization (Rosch et al. 1976), the basic level of categorization is considered the most cognitively and linguistically salient level from which we conceptualize and name things. It is then the most prototypical one. Basic level terms are generally short and monomorphemic, or structurally simple. Subordinate level terms that create a subcategory of the basic level and are derived from this latter often appear in compounds; they are longer and structurally more complex, since they consist of a basic level term plus the modifier. Subordinate terms are thus expected to be composed of more complex semantic features. This is exemplified in the corpus, in which subordinate level terms, such as *arm bands* or *wristwatch* have been interpreted metonymically, metonymic meaning being considered a less prototypical meaning than the literal one. However, terms interpreted metonymically may also be monomorphemic, as in “...*fresh coffee had been placed by unseen hand*”, in which only the term *hand* is interpreted metonymically. Conversely, terms interpreted metaphorically are generally structurally more complex and often appear in lexical or grammaticalized expressions, such as *go hand in hand*, *shake one’s finger*, *a touch of*. Even, when these terms seem to be structurally simple, such as *arm* in *insurance arm*, or *fingers* in *fingers of ivy*, they may be part of constructions, such as the noun construction of the type “X of X”, so that the elements part of these constructions, such as the prepositional phrase “of X” in “X of X, need to be taken into account in the meaning interpretation.

Meaning associated with syntactic structures as well as the bodies of language seem to point toward a “scaled” interpretation of meaning, which would lead to the creation of a meaning semantic scale, in which metonymic meaning would be at the middle of the scale since sharing both physical and symbolic semantic features. Literal meaning would be at the bottom of the scale. Terms used in their most prototypical senses appear in simpler syntactic structures, have only one basic semantic feature, and have a “physical” meaning. On the top of the scale is found metaphorical meaning. Terms used in their less prototypical senses appear in more complex syntactic structures, have more complex semantic features, and have an abstract or symbolic meaning, derived from the more prototypical ones. Other instances are then closer to or farther from

more prototypical senses, according to their degree of “physicality”. More precisely, the farther a meaning is from prototypical meaning, the more abstract and symbolic it is (see arrow in the scale below). Below is this semantic scale:



According to grounding¹³ of metonymic and metaphorical concepts, which would involve more or less direct physical associations, metonymies and metaphors may be placed in the scale, as below:



This semantic scale also makes us question about placement of conceptual mapping involving both metonymies and metaphors. For instance, a “metaphor from metonymy” type of mapping is a

¹³ Grounding refers to the semantic features resulting from the blending between the source and the target domains, that is, the semantic features resulting from the association between both domains.

metaphor based on a previous metonymic mapping; demetonymisation implies the metaphORIZATION of a previous metonymy. Furthermore, questions might arise in regards to the grounding of conceptual metaphors; since metaphorical meaning is placed farther from the literal one in the semantic scale, retrieving the physical associations that are involved in grounding of conceptual metaphors may prove to be less clear. As pointed out by Lakoff (1980: 39):

In fact, the grounding of metonymic concepts is in general more obvious than is the case with metaphorical concepts, since it usually involves direct physical or causal associations.

Such a scale and the questions that may arise from it leads us to consider the idea of metonymy-metaphor continuum, which would presuppose that metonymy antecedes metaphor (in language or when metaphorical mapping takes place).

3.1.6 Metonymical basis of metaphor

The idea of a metonymy-metaphor continuum is presented in different ways in cognitive linguistics. Some linguists support the idea of a continuum, because of the difficulty of distinguishing both notions in many cases, “as theoretical terms and in their application” (Radden in Barcelona 2003: 93). Dirven already developed this idea of continuum (1993) in which metaphor can be found at one end of the continuum and metonymy at the other, but in which both notions overlap in between. Barcelona (2003: 31) supports the idea that metonymic mapping antecedes metaphorical one and claims:

“every metaphorical mapping presupposes a conceptually prior metonymic mapping, or to put it differently, that the seeds for any metaphorical transfer are to be found in a metonymic projection.”

Niemeier (“Straight from the heart— metonymic and metaphorical explorations” in Barcelona 2003: 195) supports Barcelona’s idea of continuum, but, for her, metonymy would precede metaphor in language as well:

“it would appear that metonymies antecede metaphors in language development in that many –if not all metaphors have a metonymic basis, i.e. are dependent on a conceptually prior metonymic conceptualization.”

When analyzing some metaphors found in the corpus, such a continuum may be justified.

For instance, in “*Her heart touched on the instant by her friend's distress*”, there is a metaphorical mapping between the domain of tactile perception and the domain of emotions; this mapping may be based on the metonymy ACTION FOR RESULT, in which the action of physically touching stands for the result produced by themselves, that is, emotional effects. Such examples may be considered ambiguous examples of metonymy and metaphor, in which both metonymic and metaphoric mapping can be retrieved (see also in the first part).

Furthermore, as seen with Grady's primary, or correlation-based metaphors, in which the association between source and target is justified by experiential-based type of features (see “Metaphor motivation” above); these latter are based on cause-to-effect link between source and target, so that metaphorical mapping may be based on the metonymy CAUSE FOR EFFECT. For instance, in the expression *go hand in hand*, the target concept COOPERATION, or, more generally, the idea of “mental” proximity, closeness, or friendship, is the effect produced by seeing two persons hand in hand. Indeed, being “physically” hand in hand with a person or holding someone else's hand implies a relationship of intimacy between these two persons.

Finally, as discussed before, interaction between metaphor and metonymy sometimes implies that metaphors are based on metonymy, and thus represent cases of metonymic-based metaphors, such as metaphor from metonymy or demetonymisation type of interaction (see, for instance, expressions *hand over fist* and *knuckle down*, in which a metaphor-from-metonymy type of interaction is found, and the expression *have a hand in*, in which a demetonymisation type of interaction is found). Metonymy from metaphor type of interaction would also support Niemer's belief of metonymy preceding metaphor in language. Indeed, metonymic association between source and target in the metaphor-from-metonymy type of interaction traces back from history and is then justified when retrieving the period of history, in which such an association would appear logical (see for instance the expression *knuckle down*, in which the metonymy MANNER FOR ACTION may be justified by the knowledge of a old game).

3.2 Specific approach

In this part, a more specific approach of the analysis is adopted which leads us to discuss about constructions, grammaticalization and effects of metonymy and metaphor on English grammar.

3.2.1 Constructions

The other parameter to be taken into account in a cognitive analysis is the construction parameter. This treats the relations between syntax and semantics, and especially, the meaning of a word or expression that appears in different forms, also called constructions. Studying the construction of an item allows interrelations to be drawn between the form and meaning of the clause in which this item appears, independently of the meaning of every word in the clause. It also allows the semantics associated with particular clausal patterns to be explained. Many linguists, such as Bolinger (1968), Borkin (1974), Wierzbicka (1988), note that there are systematic differences in meaning between sentences with the same lexical items in slightly different constructions. For example, Bolinger (1968: 127) claims: “A difference in syntactic form always spells a difference in meaning”.

Thus, two clauses which contain the same item, but which are constructed differently, are semantically interpreted differently, even if only slight semantic differences are identified. Goldberg (1995: 2) gives the example of ditransitive verbs which have two different ways of introducing their complements, such as “to bring” in:

(59) *I brought Pat a glass of water.*

(60) *I brought a glass of water to Pat.*

The difference she makes between these two clauses touches on the type of arguments that can follow the verb. In (59) the goal animate needs to be human, contrary to (50).

Langacker (1991b: 13ft) adds the notion of salience to explain the semantic difference between the two constructions, while analyzing the verb “to send” in the following sentences:

(61) *Bill sent a walrus to Joyce.*

(62) *Bill sent Joyce a walrus.*

These two clauses represent what he calls “alternate construals of the profiled event” (1991: 13). He adds that “they differ in meaning because they employ subtly different images to structure the same conceived situation” (1991: 13). He claims that “up to a point these sentences are semantically equivalent” (1991: 13) but different aspects are emphasized—more salient—in each clause. In (51), “to” designates the “path” followed by the walrus, thus rendering this aspect more prominent or salient. In (52), the juxtaposition of the two nominals, Joyce and the walrus, symbolizes the possessive relationships between the two. Thus the prominence is given to the result of the walrus’s trajectory.

Wierzbicka (1988: 33) gives the example of the expression “be afraid”, which can be constructed in different ways as well; for instance, it can be followed by an infinitive introduced by *to*, or by a verb in the –ING form introduced by the preposition *of*, as in the following sentences:

(63) *I am afraid to cross the road.*

(64) *I am afraid of crossing the road.*

The semantic difference between the two sentences resides in the subject agent’s pre-supposed intentionality of performing the action denoted by these complement constructions. Only in (53) is the speaker supposed to have some intention of crossing the road. This notion of intention is implied with *to*, and therefore renders the following sentence infelicitous:

(65) # *I am afraid to fall down.*

Indeed, the speaker is supposed to have no intention of falling down and thus the –ING form is required:

(66) *I am afraid of falling down.*

The semantic differences that have been retrieved from the constructions of ditransitive verbs and the ones of the “be afraid” complements depend on clausal forms and not on the lexical components.

3.2.1.1 Noun phrase constructions

1. Noun Noun compound

Two types of Noun Noun compounds are traditionally distinguished (Bloomsfield, 1933):

- the endocentric Noun Noun compound, in which both nouns (the modifier and the head respectively) share endocentric types of relations:

(67) *A trickle of returning Romanian dissidents, wearing **arm** bands and rallying behind the National Salvation Front, have arrived in the capital. (Corpus: BNC_Written.txt at position 2714069)*

Arm and *band* share endocentric relations, since an *arm band* is a band. *Arm* refers to a prototypical feature of the band that distinguishes this band from the other bands of the same category. As such, the reference of this prototypical feature allows for the creation of a subclass into the basic class of bands, so that an “arm band” has a restricted meaning and is part of the larger basic class “band”.

- the exocentric *Noun Noun* compound, in which both nouns share exocentric relations: the basic meaning of the compound is not deduced from the meaning of one of its two elements, as in:

(68) *It is sometimes claimed that stylometry enables the scholar to identify the **finger**print of an author, a stylistic criterion, or set of criteria, which can be used to determine with certainty questions of disputed authorship. (Corpus: 140, BNC_Written.txt at position 4080070)*

Finger and *print* share exocentric relations, since a fingerprint is not a print.

2. Noun Noun versus Noun's Noun

In the corpus analysis of *arm*, it has been seen that the target can metaphorically share some characteristics of the source, these latter referring to shape or function characteristics. When similarity touches on function characteristics, that is, when a section, division or part of a main group is construed as the body part arm, the reference to this part of the main group is syntactically

represented by the noun phrase *Noun Noun*, the first noun being a modifier of the second noun, which is the head, as is the case with compounds, as in:

- (69) *Tobacco-to-insurance group BAT reveals third quarter figures on Wednesday. A much improved performance from its insurance **arm** Eagle Star should push profits for the nine months over the £1bn mark. (Corpus: BNC_Written.txt at position 1403891)*
- (70) *The 50%-owned Ansett Transport arm in Australia is now making money. Shares in News Corp and its UK **arm** News International have enjoyed a dramatic recovery and more than doubled in the last year. (Corpus: BNC_Written.txt at position 1424151)*
- (71) *Optional cording sets with overlap **arm** are available which enable the curtains to overlap at the centre when closed. (Corpus: BNC_Written.txt at position 566957)*
- (72) *For he has this grace, that he is happy to eat fish **fingers** or Chinese takeaway or to cook the supper himself. (Corpus: 152, BNC_Written.txt at position 5838299)*

As such, the first noun enables the referents that are part of a main category represented by the first noun, to be identified. Thus, the insurance arm of the main group BAT is a section among all other sections that are part of the main group, as well as an arm chair is a particular type of chair among all other types of chairs that are part of the main category “chair”. However, the reference to this part of the main group is also represented once by the noun phrase *Noun’s Noun*, as below:

- (73) *...against the trend of creating a new organisation for the 21st century comprising men and women. He sees the decision to fully integrate the women's **arm** into the organisation as a way of boosting membership. (Corpus: BNC_Written.txt at position 2276585)*
- (74) *TELECOMS giant Cable & Wireless has announced a £500m deal with Canada's BCE. The latter will buy a 20% stake in C&W's 'phone **arm** Mercury for £480m with C&W reciprocating with a £30m investment in their cable and TV interests. Cable & wireless shares jumped 24p to 673p. (Corpus: BNC_Written.txt at position 1446214)*

In “the women’s arm”, the first noun “women’s” is still a modifier of the second noun “arm” and still allowing for the identification of the referents that are part of the main category. Indeed, even if the two syntactic structures differ, since the possessive marker “’S” is present in the second type of structure, the noun modifiers in both structures seem to have the same function. This *Noun’s Noun*

structure resembles *Noun Noun* structure or compound structure rather than genitive proper, such as “Mary’s sister” in which knowledge about the first item “Mary” or identification of the referent of the possessor “Mary” is necessary and serves as a reference point for identifying the referent of the possessed “sister”. Indeed, it is necessary to first know who Mary is to know which sister is referred to. However, in “the women’s arm”, there is no need for such a primary identification. If both structures have here the same meaning, and, more precisely, if noun modifiers from both structures have the same function, why should two different structures have the same semantic effects? First, the difference in syntax can be explained by:

- the syntactic environment of the phrase, and more precisely the animacy of the noun modifier (see also Rosenbach 2007): why “insurance” is inanimate, “women” is animate, so that the possessive marker is generally necessary when the noun modifier is animate, while it generally cannot be found when the noun modifier is inanimate or abstract.
- the semantics of the compound, and, more precisely, the referentiality of the modifier. In the corpus example, “the women’s arm” can be more referential than any other nominal compound whose noun modifier is animate, since it corresponds to a section that is part of a restricted main group composed of only two sections, the women and the men, so that referents belonging to the “women’s arm” of the group are easily identifiable and individualized.

Taylor (2000: 311) proposes an explanation for this syntactic variability and considers that “(...) the move to a non-referential modifying noun, and the associated loss of a possessive marker, reflects increasing conventionalization of an expression”. He proposes a “ (...) continuum of conventionalisation from a true prenominal possessive with a definite possessor, through a prenominal possessive with an indefinite possessor, to a possessive compound”, as is illustrated below (Pastor Gómez 2010: 111):

[the driver]’s licence > [a driver]’s licence > a [driver’s licence] > a [driver licence]

A final stage of conventionalization would be the deletion of the spacing to form a unique word and the retention of the *-s*, as in “menswear” (Pastor Gómez 2010: 111).

3. *Noun Noun* versus *Adjective Noun*

We will first claim that noun modifiers and modifying adjectives do not have the same semantic effect. Indeed, as studied by Warren (1993), while a noun modifier modifies the head and forms a semantic unit with this latter (e.g. a “gold fish” is a type of fish) a modifying adjective does not modify the head but brings additional information about it (e.g. a “golden fish” is a fish which is gold-coloured). There is then a restrictive use of the noun modifier, while there is a non-restricted one of the modifying adjective. (Note that although noun modifiers tend to be restrictive, they are not always used the same way and can have different semantic effects as well. Noun modifiers can have the same role as a descriptive adjective, as in Giegerich (2004: 7)’s example “steel bridge” in which “steel” is used as a denominal adjective and here means “made of steel”, while a modifying adjective such as * “steelen” is not found in the language.)

Regarding body part term analysis, only body part terms are used as noun modifiers as in:

(75) *A trickle of returning Romanian dissidents, wearing **arm** bands and rallying behind the National Salvation Front, have arrived in the capital. (Corpus: BNC_Written.txt at position 2714069)*

(76) *The eighteen " period walnut **arm** chairs are three inches high... (Corpus: BNC_Written.txt at position 2991409)*

(77) *...His fishy tale of finding a missing gold **wrist**watch inside a cod's stomach appears to be a wind-up. (Corpus: BNC_Written.txt at position 273100)*

In these examples, the noun modifiers “arm” and “wrist” indicate how the object represented by the heads “bands”, “chairs”, and “watch” interact with the body in a meta-linguistic environment. This interaction between the object and the body part are revealed by underlying phrases in which body part terms are used in a postmodifying position in relative clauses mainly, as in the paraphrases corresponding to the above examples respectively:

(75') *arm bands* = “bands which are worn around the arm”

(76') *arm chair* = “chair which has side rests to support the arm”

(77') *wristwatch* = “watch which is worn around the wrist”

The use of a noun modifier or relative clause to express a characteristic of the object does not have the same semantic effect. Indeed, the noun modifier “freezes” (my term) the relationships between

the body part and the object in the language, so that these relationships seem to be permanent in time (see also Pastor Gómez 2010: 113). The close link between the body part and the object is also reflected in the syntax, since there are no words and, in the case of “wristwatch”’s no spacing, between them. Furthermore, the referent appears to be more specific with the use of a noun modifier rather than with a use of a clause (see also Pastor Gómez 2010: 113). As we have already seen, the use of the noun modifier allows a focus on the most important element of the modifying clause (that is, the location “arm” in the modifying clause “which is worn around the arm” for instance), so that linguistic economy is preserved and communication is best achieved.

4. *Verb Noun* versus *Adjective Noun*

(78) *The passenger lift, first entered from the right- hand lobby in the ground floor hall, serves the three main floors, and is controlled by a fully automatic set of **push** buttons at each floor so that the car can be called or dispatched from any of the main floors. (Corpus: BNC_Written.txt at position 3020995)*

(79) *The blinds can be fitted on to a wooden batten with **touch-and-close** fastener for easy removal...(Corpus: 148, BNC_Written.txt at position 655655)*

Here again, in these examples, the modifiers, “push” and “touch”, indicate how the object represented by the heads “buttons” and “fastener” interact with the body in a meta-linguistic environment. This interaction between the object and the body part are revealed by underlying phrases in which body part terms are used in a postmodifying position in relative clauses mainly, as in the paraphrases corresponding to the above examples respectively:

(78') *push buttons* = “buttons which need to be pressed lightly to make an object works”

(79') *touch-and-close fastener* = fastener which fastens by making the two ends of something touch

5. *Noun's Noun* versus *Noun of Noun*

In English, there are two kinds of genitives:

- *Noun's Noun*, in which the possessive clitic 'S is linked to the noun modifier (that is, the first noun) and precedes the head noun (that is, the second one).

- *Noun of Noun*, in which the preposition *of* syntactically introduces the noun modifier and follows the head noun.

Before analyzing the genitive forms found in the corpus, it first seems necessary to underline the fact that the genitives' semantics behaviour varies quite a lot according to many factors, such as the type of genitives used, the type of semantic relations between the two nouns, the surrounding context, and the situation. For instance, the 'S-genitive construction in "Mary's book" (Moldovan, Badilescu, 2005) can be semantically interpreted in different ways according to the context or the situation, such as "the book Mary owns", "the book Mary is reading", "the book Mary is writing". On the contrary, a genitive example such as "Shakespeare's book" will be interpreted one way, that is, "the book written by Shakespeare" according to knowledge of historical facts.

In the corpus, we will be particularly interested in the OF-genitive form that appears with the metaphorical use of body-part terms as in below:

- (80) *To see some jolly neighbours cook
Down in their kitchen, like a lighted box
Beyond the fence, where over fox-glove, mint, and ribs of fern, the small dark
plain
Fingers of ivy graze my pane. (Corpus: 167, BNC_Written.txt at position
5860486)*
- (81) *It is sometimes claimed that stylometry enables the scholar to identify the
fingerprint of an author, a stylistic criterion, or set of criteria, which can be
used to determine with certainty questions of disputed authorship. (Corpus:
140, BNC_Written.txt at position 4080070)*
- (82) *There is beautiful scenery to be seen travelling to Malbork, a town on the
eastern arm of the Vistula where there is a famous red brick Gothic castle, built
in the 13th Century. (Corpus: BNC_Written.txt at position 140220)*
- (83) *Cut-price chains Presto and Lo-Cost, caught up in a bloody head-to-head battle
with discounters like Kwik Save, managed only a small profits increase. BP
Nutrition, the food arm of the UK oil giant, is in talks that could lead to the
Sarah Lee Corporation of Chicago acquiring its consumer food group.
Nutrition, based in the Netherlands, employs 2,300 and has a turnover of £190m.
(Corpus: BNC_Written.txt at position 1502682)*
- (84) *The Time Warner AxS arm of Time Warner Inc has bought a 50% stake in
MetroComm Inc, builder and operator of a fibre optic competitive telephone
access network in Columbus, Ohio on undisclosed terms... (Corpus:
BNC_Written.txt at position 4014455)*
- (85) *We pray for those who mourn, and for those who are sad for any reason. Lord,
may each one know the gentle touch of your restoring hand. (Corpus: 156,
BNC_Written.txt at position 1059920)*

(86) *So we pray for those who are battered and bruised because of such differences, and we ask that each one may know your **touch** of peace. We pray that your body on earth may be a healing body, praying and working so that the church is united in your service. (Corpus: BNC_Written.txt at position 1075152)*

(87) *The **hand** of betrayal and treason has reached the martyr President Rene Muawad, the official Syrian news agency, Sana, said. (Corpus: 194, BNC_Written.txt at position 2125331)*

(88) *We pray for your guidance on leaders, and your **hand** of comfort on the innocent people caught up in conflict. Lord, your will is for truth; we pray for the forces of justice... (Corpus: 135, BNC_Written.txt at position 1042817)*

(89) *The Magdalen herself had dried Christ's feet with her long tangled perfumed hair; wavy hair beyond doubt of the ripest corn-yellow. Everywhere the capricious darting **hand** of Grace had lighted on the fallen, the ordinary, and they had been briefly lit up and magnified in that illumination. (Corpus: 182, BNC_Written.txt at position 3725040)*

According to these examples, we will try to figure out what semantic relations exist between the head noun and the modifier introduced by the preposition, OF, since, even though these noun phrases are syntactically formed the same way—N_{head} + [OF + N_{modifier}]¹—the genitive OF does not seem to be semantically interpreted differently in some examples. Based on a list of 35 most frequently used semantic relations proposed by (Moldovan et al. 2004), the semantic relations of the examples above have been retrieved, as follows:

a. PART-WHOLE:

- in (80) with “fingers of ivy”
- in (82) with “the eastern arm of the Vistula”
- in (83) with “the food arm of the UK oil giant”
- in (84) with “the Time Warner AxS arm of Time Warner Inc.
- in (89) with “the capricious darting hand of Grace”

b. ASSOCIATED WITH:

- in (86) with “your touch of peace”
- in (87) with “the hand of betrayal and treason”
- in (88) with “your hand of comfort”

c. PROPERTY:

- in (81) with “the fingerprint of an author”

d. MEANS:

- in (85) with “the gentle touch of your restoring hand”

First, note that ASSOCIATED WITH relations encoded by the OF-genitive could be here paraphrased by a relative clause, such as “which is associated with”, “which shows” or “which evokes”, as follows:

(86') *your touch of peace* = your touch which is associated with/shows/evokes peace

(87') *the hand of betrayal and treason* = the hand which is associated with/shows/evokes betrayal and treason

(88') *your hand of comfort* = your hand which is associated with/shows/evokes comfort

Second, note that we would expect the PART-WHOLE relations we have with the association between a body part and the person it belongs to, to be encoded by the 'S-genitive, as in “Mary’s hand”. In the corpus examples above, in which PART-WHOLE relations have been revealed, such an association between the noun head and the noun modifier is found, since this latter is metaphorically construed as a person. However, the fact that it is syntactically represented by an inanimate noun seems to disallow the use of the possessive marker (see also “animacy of the noun modifier” above).

Finally, also note that the relations between the noun head and noun modifier could be ambiguous, and interpreted either as the ASSOCIATED WITH or as the PART-WHOLE relation type in (87) and (89). In (87), the ASSOCIATED WITH relation type has been preferred for syntactic reasons, that is, because the noun modifiers, “betrayal” and “treason”, are not capitalized. This suggests these latter are not personified and therefore that it does not deal with an association between a body part and the person it belongs to. On the contrary, in (89), the noun modifier “Grace” is capitalized, which probably suggests it is personified or metaphorically construed as a person.

6. *Noun Noun* vs. *Noun of Noun*

We are particularly interested in examples (72) with “fish fingers” and (80) with “fingers of ivy” in which the two noun heads “fingers” represent a concrete object of the same shape of the body part *finger*: “(fish) fillets” in (72) and “(ivy) stems” in (80). However, noun modifiers of these two noun heads, that is, “fish” and “ivy” appear in two different syntactic forms: in prenominal adjectival position in a compound in (72) and in a postnominal position introduced by the preposition “of” with the use of the OF-genitive in (80). One might wonder if the semantic relations between the noun head and the noun modifier are of the same type in the two examples. As we have already seen above, the noun head “fingers” in “fingers of ivy” represents a part of the whole entity, “ivy”, so that the two nouns share a PART-WHOLE type of relation. In (72), there is a restrictive use of the noun modifier, “fish”, that appears in a compound (see also above); this noun modifier restricts the choice of referents that can be represented by the compound. Indeed, fish fingers represent “fillets” but particular type of “fillets”: “fish fillets” and not “meat fillet” for instance. The noun modifier therefore is used to “restrict” the main category represented by the noun head and focus on a particular type or part of this category. There is still a PART-WHOLE type of relation, but this time, the noun head represents the whole category while the noun modifier restricts this whole category to a part of it. Thus, in (72), “fish fingers” represents a part, or a type, of the main category “fingers”.

Different semantic effects are produced by the use of these two different syntactic forms. While the two noun heads “fingers” both metaphorically refer to a concrete object, the noun modifier seems more personified when used in the OF-genitive form “fingers of ivy” than when used in the compound “fish fingers”. By creating a category type when the noun modifier is placed before the noun head, the construction *Noun Noun* seems to be more productive in the language, so that the metaphorical sense of the two nouns is lost and the semantic relations between the two nouns in the nominal compound become a “fait accompli” and become of common use in the language. Indeed, the double metaphor originally found in “fish finger”, that is, FILLET AS FINGER and FISH FILLET AS A PERSON conceptual metaphors, is “dead”, so that the semantic relations between the two nouns “fish” and “fingers” becomes of common use. As a result, the compound “fish finger”, and even “fishfinger”, is created in the language. As a reminder of the discussion about the syntactic effect of these semantic relations between the two nouns in the compound:

...The noun modifier “freezes” (my term) the relationships between the body part and the object in the language, so that these relationships seem to be permanent in time (see also Pastor Gómez, 2010: 113). The close link between the body part and the object is also reflected in the syntax, since there are no word , in the case of “wristwatch” no spacing, between them.

The use of a construction in which the modifier is directly placed before the head or main noun is also a syntactic effect of “preconstruction” of these semantic relations.

3.2.1.2 *Near future*

In the corpus, near future seems to be expressed by means of adverbial expressions composed of a preposition (*in*, *on*, and *at*) and the lexical noun *hand*. In order to understand the different senses conveyed by these expressions, it seems necessary to analyze the meanings of the prepositions that precede the lexical noun *hand* and the meaning of the relation between these two elements as well, especially the conceptual schema that is described by such a relation (see Navarro, 1998: 148). Navarro (1999: 148) suggests that “a conceptual schema of a preposition combines three types of image-schema that define three configurations: a topological configuration, a functional configuration and a force-dynamic configuration...”

1. *In hand*

(90) *To observe searching behaviour solely at the catalogue may provide a distorted picture of the task in **hand**...* (Corpus: BNC_Written.txt at position 4542047)

In this example, the noun phrase *in hand* composed of the preposition *in* followed by the noun *hand* may be a synonym of the adjective *current*, as follows:

(90') *To observe searching behaviour solely at the catalogue may provide a distorted picture of the current task...*

Indeed, the adjective *current* conveys the idea of the present, and, more exactly, brings information about an activity which is still in progress and under our attention at the moment. As suggested by the metaphor (see the corpus-based analysis on *hand*), something that is under our attention at the moment is something that is interacting with the body and is part of the Body Space.

The conceptual schema of lexical *in* is identified with the CONTAINER schema (Johnson, 1987; Lakoff, 1987, 1989, 1990), which consists of an interior, exterior, and a boundary. Its basic logic is posited for the physical domain: The boundaries prevent what is outside from affecting the entity or entities found within the container; everything is either outside or inside the container; and if container A is in container B and B in C, then A is inside C (Lakoff 1989: 116). Peña (1997a) includes axiological value, so that when entering a container, the entity is either affected positively or negatively by the entity or entities inside the container.

(91) *...and in any case they were spared the necessity of any expenditure since the Empress Elizabeth seized their assets in 1747, just as plans were in **hand** to construct the new line. The eastern terminus was Kuznetsk. (Corpus: 145, BNC_Written.txt at position 3277202)*

(92) *Following a large congress of agricultural co- operatives last weekend, preparation is in **hand** to form a new Peasants' Party. And the Greens have also set themselves up. (Corpus: BNC_Written.txt at position 2422154)*

(93) *Guildford moved two points clear in Conference B with an emphatic, expected victory over Basingstoke and still have three games in **hand**, but a late slip-up is not inconceivable. (Corpus: 192, BNC_Written.txt at position 254864)*

In these three examples above, the expression still conveys the idea of present, and also suggests some achievement has been gained so far after some effort was made in the past. Indeed, in (81), “plans were in hand” suggests that some work was done to make these plans available in the present; in (92), “preparation is in hand” suggests that some discussions was made and some decisions were agreed upon before things getting ready in the present; in (93), “Guildford still have three games in hand” suggests that Guildford already played some games in the past and won, which enable them to keep on playing in the present and come closer to their goal. It does not only convey the idea of present though. Indeed, the current achievement aims at achieving a final goal, which is usually expressed by a TO-infinitive verb form. Indeed, the final goal to achieve is expressed in (91) with “to construct the new line”; in (92) with “to form a new Peasants’ Party”; and implicit in (93), since the final goal may be retrieved as follows:

(93') ...and still have three games to play (before winning the tournament or getting through to the finals).

It seems that both ideas of present and future conveyed by the expression *in hand* are best exemplified by the near future aspect in English. Indeed, the near future expresses the passage from the present to the future: a present situation leads to a future one; it also expresses modality: an activity has very good probability to take place in the future because of the present situation. Near future is usually expressed in English by the means of the verbal expression *be going to* or *be about to*, and the above examples may be rephrased or explained by using these verbal expressions, as follows:

(91') ...(thanks to the plans made available) new lines were going/were about to be constructed.

(92') ...(preparation is in progress and) a Peasant's Party is going/is about to be formed.

(93'') ...(now they've won and if they get through to the final victory or the day of the finals) they are going/are about to play three other games.

Note that the passive form has been preferred in (91') and (92'), since the agent responsible for the action “construct” and “form” are not clearly expressed in the context.

Both ideas of present and future are also conveyed by the expressions *be going to* and *be about to*. Indeed, as far as *be going to* is concerned, this verbal expression is composed of the verb *go* in the present of the utterance (that is, in the present continuous if the present of the utterance is the present and in the past continuous if the present of the utterance is the past) and the TO-infinitive verb form. Furthermore, the lexical verb *go* which conveys the idea of the passage from a point of departure to a final destination, has been grammaticalized and used as an auxiliary to express the idea of near future. Thus, the *be going to* future shows that the spatial sense of the verb *go* has been extended to a temporal sense. As many future constructions of languages all over the world, *be going to* has followed a grammaticalization process, the stages of which are: allative /locative > purposive > future, or alternatively, motion > intention > future (Bybee & Dahl 1989, Bybee et al. 1994, Heine et al. 1991). The connection between the three stages is easily identifiable in an example (my example) such as:

- (94) a. I'm going [outside] to the movies.
b. I'm going [outside] to watch a movie.
c. I'm going to watch a movie.

In (a), there is physical motion towards a physical destination or destination in space. The preposition *to* represents the direction followed along a linear path, while “the movies” represents the final destination. In (b), there is still a physical motion but this latter aims at performing an activity in another place; physical motion thus proves to be necessary, so that the desired activity can be performed. In (c), even if physical motion may be implied, the focus is on the performance of the activity that is aimed at.

As far as *be about to* is concerned, the same remarks may be made. First, this expression is composed of the verb *be* in the present of the utterance (see above), the preposition/adverb *about* and the TO-infinitive verb form. The preposition or adverb *about* appears to be first used with the physical or spatial sense of *around the outside*, *around*; *on every side*, and less definitely, *on any side*; *near*, *in the neighbourhood* (OED, *about*, in Höche 2010), and then used in the phrase “*be about + TO-infinitive*” to refer to preparation or intention. As suggested by Höche (2010), the extension from the spatial sense to the ‘intention’ sense of the preposition may result from the extension from the spatial or physical domain to the mental one, which implies that being spatially near a location is construed as being mentally near an action. Next, the construction may have been extended to the future sense, which would have evolved from the intention sense due to pragmatic inferencing. Indeed, being involved in the preparation of something ,or in an activity, readily implies that this latter will occur/does occur in the imminent future. The grammaticalization process of *be about to* thus also identifies the same three stages (locative > purposive > future) as *be going to*. Furthermore, both constructional evolutions roughly took place within the same periods (from the 15th century with ambiguity still between the intention and the future senses, to the end of the 18th century, in which full grammaticalization was achieved).

2. *On hand (to do something)*

- (95) *There were four conductors in charge of this group with a different conductor planning, organising and leading each session. There were several students on*

hand to help with moving of the furniture etc. (Corpus: 156, BNC_Written.txt at position 3701085)

(96) Another advantage of such places is that they often have someone on *hand* to keep an eye on the exhibitions. Perhaps you can strike a deal with an estate agent for temporary use of an empty shop space, or find a suitable display area in an hotel, a restaurant or a theatre. (Corpus: BNC_Written.txt at position 1227384)

(97) Friday prayers in the mosques of Jerusalem's Old City passed without incident, although large numbers of troops and paramilitary border police were on *hand*. West Bankers and Gazans were unable to enter the city. (Corpus: BNC_Written.txt at position 2325972)

In this example, the noun phrase *on hand* composed of the preposition *on* followed by the noun *hand* may be a synonym of the adjective *available*, *present* or the prepositional phrase *on the scene* (*sur les lieux* in French”) or *on the spot* (*sur place* in French”), as follows:

(97') Friday prayers in the mosques of Jerusalem's Old City passed without incident, although large numbers of troops and paramilitary border police were available/present/on the scene/on the spot.

Indeed, the adjectives, *available* and *present*, and the prepositional phrases, *on the scene* or *on the spot*, convey the idea of the present, and, more exactly, refer to contact between the trajectory, “the police”, and the landmark, which corresponds to the current place or the place the writer refers to in the utterance. More exactly, this contact implies that the trajector is physically present at the place in which a future activity is to be performed. As such, this expression does not convey the idea of present only. Indeed, the physical presence of the trajector implies that this latter will be the agent of an activity that is aimed at, this activity being usually expressed by a following TO-infinitive verb form. Indeed, this activity is expressed in (85) with “to help with moving of the furniture, etc.”; in (86) with “to keep an eye on the exhibitions”; and implicit in (87), since the activity may be retrieved as follows:

(97'') Friday prayers in the mosques of Jerusalem's Old City passed without incident, although large numbers of troops and paramilitary border police were on *hand* to intervene (in case of incident).

Furthermore, the trajector in contact with the landmark is identified as the agent of this activity, that is, the one who is responsible for it and controls it:

(95') ...*There were several students who [help] with the moving of the furniture, etc...*

(96') ...*they often have someone who [keep] an eye on the exhibitions...*

(97'') ...*paramilitary border police [intervene] (if there is any incident)...*

The conceptual schema of lexical ON is identified with the SUPPORT schema which is represented by the combination of the following image schemas or image schematic structures (Navarro, 1998):

- the contact image schema, which describes the topological relation of two objects in contact.
- the control image schema, which describes the function played by either object as one of them exerts control over the other.
- the force downwards image schema, which describes the patterns of force-dynamic interaction of these objects, usually on a vertical up-down axis.

Thus, the following configuration is posited for the physical domain (Navarro 1998, in Navarro 1999: 148–149):

- The trajector achieves or maintains control (over the landmark or itself) through the contact of its resting side with the outside part of the landmark. This relationship is called SUPPORT.
- According to the topological configuration, trajector and landmark bear a relationship of contact, or tend to be in a relation of contact.
- According to the functional configuration, interaction between trajector and landmark is expected where the trajector holds control of the situation.
- According to the force-dynamic configuration, trajector and landmark define a common axis along which their relationship adopts a certain directionality. That axis is prototypically the vertical axis with respect to the human canonical position as standing on the ground, since the human resting side is defined by the soles of the feet. The force exerted by the trajector is prototypically exerted downwards.

In the corpus examples above, this support schema serves as a source domain for a metaphorical mapping to be projected onto a more abstract type of relation trajector-landmark. Indeed, a person (trajector) is here primarily identified in relation to a place referred to at the moment of the utterance, so that this place is part of this person's deixis. Hence, a person being in a particular place at a particular moment is conceptualized as an object having a contact with the supporting entity *hand* at a particular moment (see the contact image-schema). As seen above, the idea of

present is conveyed by this physical contact between this person and the place referred to at the moment of the utterance. Furthermore, the person is also identified at the moment of utterance as the agent of a future activity, so that this future activity is already perceived as being under the control of this person/agent at the moment of utterance. Thus, an agent being in control of an action is conceptualized as a supporting entity exerting control over an object supported by it (see the control image schema). The idea of future is conveyed by the pre-established control exerted by the agent over an activity.

As was the case with the expression *in hand (to)*, it seems that both ideas of present and future conveyed by the expression *on hand (to)* have best exemplified by the near future aspect in English in which there is the same association between present and future (see explanation in “*in hand*” above), so that the above examples may be rephrased as below:

(95'') ...*There were several students here to help/here with a view to helping/that were going to help/that were about to help with moving of the furniture etc.*

(96'') *Another advantage of such places is that they often have someone available to keep/ available with a view to keeping/that is going to keep an eye on the exhibitions...*

(97''') *Friday prayers in the mosques of Jerusalem's Old City passed without incident, although large numbers of troops and paramilitary border police were present/ ready (to intervene)/going to intervene/about to intervene (if an incident was to take place) .*

Sometimes, only the control image-schematic structure is profiled, so that only the relation of control between an agent and the future activity prevails, as in the following example (Francis W. N. & H. Kucera 1961, quoted in Navarro 1999):

(98) *The contents were highly embarrassing to American spokesmen, who were on **hand** to promise Latin Americans a 20 billion dollar foreign aid millennium.*

Here, the “American spokesmen (trajector) are not identified in relation to a place referred to at the moment of the utterance, but rather, only as the agent of a future activity at the moment of utterance. *On hand to* could also be paraphrased by *ready to*, the adjective “ready” showing that there are good probability for the future activity to take place at the moment of utterance.

3. *At hand (to do something)*

(99) *Besides, what if you did forget -- you would have someone at **hand** to remind you!" (Corpus: BNC_Written.txt at position 5032781)*

(100) *The queen-dowager had her own reasons for wishing to keep her daughter-in-law close at **hand** -- whilst accepting that her remaining in sanctuary in the circumstances was out of the question. (Corpus: BNC_Written.txt at position 5154863)*

In these examples, the noun phrase *at hand*, composed of the preposition *at* followed by the noun *hand*, may be replaced by the expressions *at your side*, or *close to you*, that could ambiguously refer to:

- the literal notion of spatial or physical proximity and means *close by*, *nearby*.
- the metaphorical notion of “mental proximity” (see analysis of the expression *at your elbow* in the corpus-based analysis of *elbow*) and means *available for (somebody)*, *at the disposal of (somebody)*, *at the service of (somebody)*, or *ready to (help somebody)* without necessarily implying spatial proximity.
- both notions of spatial and mental proximity, and thus have a metonymical sense in which mental proximity will be a consequence of spatial proximity. Thus, someone being near you allows him/her to be prompt to react in your favour, in case you need help.

(Note it may be translated by the expression *sous la main*, literally, “under the hand”, in French, which illustrates the metaphorical mapping projects different image schematic structures in English and French to refer to a same domain.)

In (99), the aim is explicit by the use of the TO-infinitive form of the verb *remind*, which follows the adverbial expression *at hand*.

First the adjective *close by* and *nearby* conveys the idea of present, and more exactly refers to the contact, or possibility of contact, between the trajector (“someone” and “her daughter-in-law”) and the landmark, which corresponds to the place referred to in the utterance. As was the case with *on hand* in the examples found in the corpus, this contact implies that the trajector is physically present at the place in which a future activity is to be performed. More exactly, this place metaphorically corresponds to the immediate space in which the person associated with the trajector, is. Indeed, physical proximity denoted by the adjective *close by* or *nearby* presupposes the existence of landmark, or a point of reference in space with which the trajector may be associated, so that the trajector is close to somebody or something (somebody or something representing this point of reference in space). Furthermore, this immediate space is metaphorically conceptualized as

the (Extended) Body Space of the person with which the trajector is associated, or Touching Zone of this person's hand (see these notions in the corpus-based analysis of *hand*).

As was the case with *in hand* and *on hand*, this expression does not convey the idea of present only. Indeed, the physical presence of the trajector in the immediate space of the person he/she is associated with, implies that this latter will be the agent of an activity in favour of this person, and which is aimed at, this activity being usually expressed by a following TO-infinitive verb form. Indeed, this activity is expressed in (89) with "to remind you". Furthermore, the trajector being in contact with the landmark, is identified as the agent of this activity, that is, the one who is responsible for it and controls it:

(99') *Besides, what if you did forget -- you would have someone who [remind] you!*

As seen in the corpus-based analysis of *hand*, the three expressions *in hand*, *on hand* and *at hand* reflect the same metaphors (ATTENTION IS HOLDING IN THE HAND and CONTROLLING IS TOUCHING conceptual metaphors) but the fact *hand* is introduced by three different prepositions shows that the same aspect of an event (the near future aspect) is viewed according to different perspectives, through the activation of three different schemas: the CONTAINER, CONTACT and PATH schemas.

3.2.2 Grammatical metaphor and metonymy

The term, "grammatical metaphor", was introduced by Halliday (1985), and defined as "a substitution of one grammatical class, or one grammatical structure, by another" (Halliday & Martin, 1993: 79). The best example of grammatical metaphor is nominalization, which is considered "the most powerful resource for creating grammatical metaphor" (Halliday, 1994: 353). Furthermore, grammatical metaphor is considered "an incongruent realization of a given semantic configuration in the lexicogrammar" (Halliday 1985: 321). According to Halliday's statement, there is a link between grammar category and reality; they are related in a congruent manner, so that they follow a line that extends congruently or naturally from form to meaning to experience. Thus, meaning realization is achieved by following a series of steps, which form meaning when being associated together. As in grammatical structures, grammatical roles assigned to participants are

logically associated to form a whole semantic structure. As such, semantic-roles appear in hierarchically in the clause structure: first the subject/agent, then the affected patient, then the goal, and so on. Grammatical metaphors appear-in clause structure when this chain, that is, the order in which these roles appear to convey meaning, is not respected, or in other words, when a semantic role does not appear to be placed congruently. For instance, consider of following pair of sentences:

(101) *The driver drove the bus too fast down the hill, so the brakes failed.*

(102) *The driver overrapid downhill driving of the bus caused brake failure.*

The first sentence consists of three arguments, which appear congruently: first the subject agent, “the driver”, then the patient, “the bus”, and another inanimate subject, “the brakes”. The first agent is linked to the patient by the verb “drove; then the way the process is performed is expressed by the use of the adverb phrase, “too fast”, and so on. In the second sentence, the three participants appear in modifiers in noun phrase constructions: the two subjects, in a Noun Noun compound construction, while the patient appears in a prepositional phrase of the type “X of X”. Moreover, the processes, “drove” and “failed”, become the participants. By being reworded metaphorically as nouns, which designate participants in the process, these processes are incongruently used, and reveal a grammatical metaphor. Such an example is metaphorical-based, since, as pointed out by Ibanez & Velasco (2001), a metaphor implies a domain-domain mapping which preserves the original actional structure of the verb in the nominalization. Conversely, the use of a deverbal noun, such as *cut* in “in a deep cut” illustrates the ACTION FOR RESULT metonymy, this latter thus highlighting a subdomain of the whole action, which entails the reduction of conceptual structure and a loss of semantic information. As such, the consequence this metonymy has on syntactic structure, that is, the recategorization of the verb *cut* into the noun *cut* may be called “grammatical metonymy”, as suggested by Ibanez & Velasco. Hence, the creation of a deverbal noun as a consequence of a metonymy may be called grammatical metonymy, while nominalization resultant from an incongruent use of a grammatical category is called grammatical metaphor.

Both the use of grammatical metaphor and metonymy has a consequence on meaning interpretation. Indeed, not only is syntactical structure altered, but also the semantics are affected. By the means of nominalization, for instance, processes are reified into objects, which renders information more accessible. Furthermore, by modifying syntactic structure, grammatical metonymies may prove to be an economical means of packaging information and throwing light on congruent elements, so that the salient semantic feature is immediately processed. For instance, through grammatical metaphor the actor of the process is often absent and replaced by the

nominalized process itself, while in grammatical metonymy, a salient subdomain of a whole domain is highlighted; this allows information to be condensed and directly reported to the hearer/reader.

Some manifestations of metonymical and metaphorical effects on syntax and semantics have been analyzed below.

3.2.2.1 *Incongruent position of the modifier in a compound*

(103) *A trickle of returning Romanian dissidents, wearing **arm** bands and rallying behind the National Salvation Front, have arrived in the capital. (Corpus: BNC_Written.txt at position 2714069)*

(104) *What's wrong?" asked his mother as the boy stood staring at the moving **hand** rail. (Corpus: 192, BNC_Written.txt at position 5247959)*

(105) *...His fishy tale of finding a missing gold **wrist**watch inside a cod's stomach appears to be a wind-up. (Corpus: BNC_Written.txt at position 273100)*

(106) *Skinny Brown and Hoyt Wilhelm, the Flock's veteran **knuckle**ball specialists, are slated to oppose the American League champions in tomorrow's 8 P.M. contest. (Corpus: Brown.txt at position 174890)*

The term keeps its category as a source (noun) because of its grammatical form (noun + Ø), has an adjectival position (prenominal position) but belongs to a different category as a target —relative clause: “that are placed around the arm” in (103), “that works manually” in (104), “that are placed around the wrist in (105), adverbial clause = “by holding it with the knuckles” in (106). This example reflects a grammatical metonymy in which the grammatical category, “noun”, stands for another one, “relative clause”, with which it is syntactically associated: in (103), for instance, the noun “arm” is part of the relative clause “that are placed around the arm”. There is thus a difference in the syntactic structure of both target and source: complex syntactic structure for the target and basic one for the source.

Furthermore, these examples may also reflect a grammatical metaphor, since the grammatical category “subordinate (relative) clause” is syntactically represented by another, another “adjective”. These two categories are congruently placed in different positions in a phrase: prenominal position for the adjective, and postnominal position for a relative clause.

The immediate syntactic effect of the metonymy is the adjectival placement of the modifier, that is, directly beside the noun it modifies (no word between them). The semantic link between the two terms is immediately identified, thanks to this metonymical syntactic structure. Furthermore, the creation of “adjectival nouns” (my term) profiles the information necessary for the comprehension of the phrase. It is a way to communicate efficiently, thanks to word economy and emphasis on the necessary information only.

Note the fact that whether there is a space between the two terms, or the two terms are attached to each other, is also a meaningful syntactic element. Indeed, when attached to the noun as in (105), the modifier also changes its grammatical role of adjective and becomes part of the noun. This latter refers to a specific concrete object which can be distinguished itself from other types of concrete objects.

The same analysis may be done when it deals with *Verb Noun* compound, as follows:

- (107) T
*he passenger lift, first entered from the right- hand lobby in the ground floor hall, serves the three main floors, and is controlled by a fully automatic set of **push** buttons at each floor so that the car can be called or dispatched from any of the main floors. (Corpus: BNC_Written.txt at position 3020995)*
- (108) *The blinds can be fitted on to a wooden batten with **touch-and-close** fastener for easy removal...(Corpus: 148, BNC_Written.txt at position 655655)*

As in the examples above, “push” in (107) and “touch” in (108) keep their category as a source (verb) because of their grammatical form (verb + Ø), and have adjectival characteristics (prenominal position, Ø marker/invariability) but belong to a different category as a target—relative clause: “that need to be pushed when in use (when using these types of buttons)” in (3); “that need to be closed by ‘touching’ or by putting the two ends of the fastening device into contact”. The grammatical category “verb” stands for another, “relative clause”, with which it is syntactically associated: the verb “push” is part of the relative clause, “that need to be pushed when in use”, as is “touch” in the respective relative clause above. More precisely, in (107) for instance, the past participle “pushed” (PUSH + -ED) is syntactically associated with the relative clause, which is one of the grammatical forms that can be associated with the verb “push” (PUSH + Ø). Here again, there is a difference in the syntactic structure of both target and source: a complex syntactic structure for the target, and a basic one for the source. Furthermore, there is a difference in the

grammatical form of PUSH in the target, PUSHED, and the source, PUSH. This difference is based on the difference between the factual, situation-based, semantic feature of the -ED suffix and the non-factual, generic, semantic feature of the \emptyset one, and allows to interpret differently phrases such as “a pushed button” and a “push button” (see the explanation in the corpus-based analysis of *push*).

Here again, this example also reflects a grammatical metaphor in which the grammatical category, “subordinate (relative) clause”, stands semantically for another one, “adjective”, because of its grammatical role of giving information about the noun that follows but also because of its generic value of property assigned to the noun that follows; in (107), this generic value allows “push” to be construed as a property of the noun, “button”, which is valid in any situation.

A similar analysis can be proposed for the following example, in which the verb “touch” is placed in an adjectival position, and refers to a subordinate clause:

- (109) *The local Evening Institute, at a reasonable price, offered to teach anyone who asked, **touch** typing.* (Corpus: 167, BNC_Written.txt at position 2731120)

3.2.2.2 Nominal phrase placed in an adverbial position

- (110) *Sotheby's plunge TOP people's auction house, Sotheby's is losing money **hand** over fist.* (Corpus: 189, BNC_Written.txt at position 1404523)

- (111) *It was rejected out of **hand** by President Bush, who also refused to include the US Navy in conventional arms control agreements.* (Corpus: 136, BNC_Written.txt at position 2191175)

The phrase keeps its category as a source [Noun phrase in (110), Prepositional phrase in (111)] because of its grammatical form [Noun + Preposition + Noun; Preposition + Noun in (111)], but belongs to the adverb category as a target [“rapidly” in (110), “immediately” in (111)] and is placed as an adverb would be, that is, at the end of a sentence. This example reflects a grammatical metaphor, in which the grammatical category, “Noun phrase”, or “Prepositional phrase”, stands for another, “adverb”, with which it is semantically associated by domain-domain mapping (see corpus-based analysis for explanation).

- (112) *...provided Mozart with a vehicle for his overwhelming genius, not least in those two miraculous finales, to Acts Two and Four, where formality of design goes **hand** in hand with the dramatic unfolding of the story, inspiring the*

composer to create some of his most complex structures. (Corpus: 156, BNC_Written.txt at position 1295682)

- (113) *The Mayor and his friends were themselves the criminals, **hand** in glove with the smugglers whose leader Jake was clearly an old ally. (Corpus: 172, BNC_Written.txt at position 5005209)*

The phrase keeps its category as a source (Noun phrase), because of its grammatical form (Noun + Preposition + Noun), but belongs to the adverb category as a target (“well” for instance), and is placed as an adverb would be. This light on the gesture that is generally associated with the concept it represents, and conveys a dynamic description of the scene. Indeed, the enactment of the gesture *hand in hand* would convey the idea of positive relations between the two persons.

3.2.2.3 *Inanimate subject as agent*

- (114) *Usquebaugh
Deft, practised, eager,
Your **fingers** twist the metal cap. (Corpus: BNC_Written.txt at position 5844767)*

In (114), “twist” is a transitive verb, and we thus expect the grammatical verb to be a human agent, so that the literal interpretation of the sentence would be “You twist the metal cup with your fingers”. The body part that belongs to the real human agent represents the grammatical subject of the phrase, while it is the means by which the action “twist” is performed. This is a case of valency reduction (Dik, 1989, 1997) (see corpus-based analysis) in which the means used to accomplish the action is raised to the position of grammatical subject, and the real grammatical agentive subject is omitted from the phrase. This example reflects a MEANS FOR AGENT metonymy, and allows the real active part, “your fingers”, or active zone of the body to be focused on, as in a close up. Here again, it may be a way to communicate efficiently thanks to word economy and emphasis on the necessary information only.

3.2.2.4 Transitive verb as an intransitive one in cases of ambitransitive verbs

(115) ...He moved towards the first Apache, holding his drink, his **elbow** sliding along the edge of the bar until he was right next to the Apache... (Corpus: BNC_Written.txt at position 6062494)

(116) He thought he saw her **hand** move towards her machine gun, but then one of the soldiers in white ran down the aisle and shot her again through the head. (Corpus: 141, BNC_Written.txt at position 6016560)

(117) ... And a **hand** waved back! It was holding a newspaper and it belonged to an old gentleman. (Corpus: 189, BNC_Written.txt at position 5361559)

Examples (115) to (117) appear to be “ambitransitive” verbs, that is, verbs that can both be used transitively and intransitively. Before analyzing these examples, two varieties of ambitransitive verbs are distinguished (Dixon and Aikhenvald 2000: 4) “according to which of the two core arguments of a transitive construction is identified with the S argument”—subject—“in an intransitive”:

- an agentive (also unergative) ambitransitive (Mithun 1991) when S = A, that is, when the Subject of the intransitive corresponds to the Agent in the transitive counterpart.
- a patientive (also ergative or unaccusative) ambitransitive (Mithun, 1991) when S = O, that is, when the Subject of the intransitive corresponds to the Object in the transitive counterpart.

Furthermore, two subtypes of intransitive verbs are distinguished (Aikhenvald 2003):

- S_a verbs (that is, intransitive verb whose S = A, as in the agentive ambitransitive above) refers to volitional activity.
- S_o verbs (that is, intransitive verb whose S = O, as in the patientive ambitransitive above) refers to non-volitional activity.

In Examples (115), (116), and (117), the BODY PART FOR AGENT conceptual metonymy, in which *elbow* and *hand* stand for the agents they belong to, creates a new ACTION FOR PROCESS metonymy (Ruiz de Mendoza and Pérez, 2001), in which a transitive verb is used as an intransitive one. Indeed, even though the syntactic structure of the phrases, that is, the inanimate subjects “his elbow”, “her hand”, and “a hand”, respectively, and the absence of grammatical object with “slide + Ø”, “move + Ø” and “wave + Ø”, make the verbs “slide”, “move” and “wave” intransitive, the

presence of the agent is implied in the three phrases, since the body part is part of the agent (PART FOR WHOLE metonymy). Furthermore, in (115), the –ING form shows what the action is focused on: the sliding event is continuous and lasts a certain amount of time. When focusing on the motion or action of the referent of the ‘A’ argument in a situation, the ambitransitive verb is likely of the type, S = A (see definition above) (see also Dixon’s guiding semantic principles, 2009: 145–146), so that we expect the grammatical subject to be agentive and therefore to be represented by a human agent. Indeed, in all three examples, the verbs are semantically perceived as agentive and volitional (see the definitions above). The BODY PART FOR AGENT or PART FOR WHOLE metonymy allows the active zone of the agent’s body to be profiled, so that it is semantically perceived as the object affected by the sliding, moving, or waving event, as in (118), (119), and (120), transitive counterparts below:

(118) *...He moved towards the first Apache, holding his drink, sliding his **elbow** along the edge of the bar until he was right next to the Apache...*

(119) *He thought he saw her move her **hand** towards her machine gun...*

(120) *And he waved his **hand** back!*

[Note that in (120), the reintroduction of the agent “he” as the real grammatical subject of the verb “wave” allows the use of the anaphoric possessive adjective “his” instead of the indefinite article “a”.] In the examples above, the syntactically intransitive structure of the phrase is due to the valency reduction entailed by the BODY PART FOR AGENT, and, more generally, the PART FOR WHOLE metonymy, in which the real object affected by the action is raised to the position of subject, while the real agentive subject is omitted from the phrase. However, the transitive structure of the phrase is semantically retrieved, since “slide” and “move” are here volitional activities, which therefore require an agent as a subject. In (120), “wave” is always considered a volitional activity that always requires an intentional agent as a subject.

3.2.2.5 *Transitive verb as an intransitive one with Handle + adverb*

The same reasoning will be made with the examples below, but the presence of the adverb will modify the type of metonymy retrieved:

(121) *Every fabric **handles** differently, and the only way to find out how it is likely to drape when made up into curtains is to hold up a large sample and study how it hangs. (Corpus: 180, BNC_Written.txt at position 554450)*

(122) *The paint is soft, **handles well** and is easily thinned with water, though of course it is waterproof when dry. (Corpus: 177, BNC_Written.txt at position 1164005)*

The verb *handle*, here, focuses more on the result of the action rather than on the action itself. The adverbs, “differently” and “well”, are evaluative adverbs that indicate the agent’s commentary once the action is performed, or once the action has been performed several times, so that experience with the “fabric” and “paint” is gained, and thus reveal the ACTION FOR (ASSESSED) RESULT conceptual metonymy (Ruiz de Mendoza Ibáñez and Díez Velasco, 2001), rather than ACTION FOR PROCESS. Indeed, in examples such as these, it is difficult to use *handle* without assessing the result of the action depicted by the following evaluative adverb, as shown in the unlikely phrases below:

(123) **Every fabric handles.*

(124) **The paint is soft, handles.*

Furthermore, as in the examples (118) to (120) above, which reflect the ACTION FOR PROCESS metonymy, the presence of an intentional agent is implied with *handle*.

The reasoning above, regarding the effects of ambitransitive verbs when using transitively and intransitively, can be compared with the effects of verbs used in the active and passive voices, as in:

(125) *As a result of this intrusion the Nganasans **were pushed farther north into** the tundra, and a lasting enmity between them and the Dolgans was created. (Corpus: BNC_Written.txt at position 3336159)*

(126) *The Russians **were pushed back northwards to** the Stanovoi mountains, where the frontier fixed in 1689 by the Treaty of Nerchinsk was recognized until the nineteenth century. (Corpus: BNC_Written.txt at position 3310980)*

In both examples, the verb “push” focuses more on the result of the action rather than on the action itself, so that it reflects the ACTION FOR RESULT metonymy. This can be seen by:

- the use of the passive formed with “BE + Verb + -EN (see semantic value of the passive form in the corpus-based analysis of *push*)

- the omission of the agent (this is thus a case of agentless passive)
- elements from the explicit context such as “as a result of this intrusion” in (125)—note that “this intrusion” represents the action of pushing itself; the explicit result of the result of the pushing action, that is, the result of the expansion of territories: a frontier is created.

Both agentless passive and metonymically intransitive uses of the verb found in the corpus can be compared, according to the syntactic and semantic effects, as shown in the table below:

	Agentless passive form	Metonymically intransitive verbs
Syntax	Form: S = O + BE + Sa V + -EN	Form: S = O + Sa V
	<ul style="list-style-type: none"> - the grammatical object of the active/transitive counterpart raises to the position of subject; it occupies the “privileged” position in the sentence - the agent—the grammatical subject of the active/transitive counterpart—is omitted; only one argument appears out of the two most important ones 	
Semantics	- focus on the new subject which is profiled	
	<ul style="list-style-type: none"> - focus on the result of the action rather than the action itself (see the corpus-based analysis of <i>push</i> and above) 	<ul style="list-style-type: none"> - <u>can</u> focus on the result of the action rather than the action itself: <ul style="list-style-type: none"> o in (7), <i>he thought he saw her hand move</i> $\square \rightarrow$ <i>he thought <u>she</u> was alive</i> (result) o <i>handle</i> + adverb
	<ul style="list-style-type: none"> - static rather than dynamic description of the scene (see the corpus-based analysis of <i>push</i>) 	<ul style="list-style-type: none"> - <u>More</u> static rather than dynamic description of the scene: <ul style="list-style-type: none"> o chronology of events (in (7)) - verb form (use of <i>See</i> + <i>V</i> instead of <i>See</i> + <i>V</i> + <i>-ING</i> in (7))
<ul style="list-style-type: none"> - the utterance has a truthful value at any moment (see the corpus-based analysis of <i>push</i>) 	<ul style="list-style-type: none"> - the utterance <u>can</u> have a truthful value at any moment: <ul style="list-style-type: none"> o <i>handle</i> (simple present) + adverb: in (10), it is a characteristic of the paint to handle well. This characteristic is 	

		known because it has been used several times in the past and experience with this paint is now gained.
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Both agentive passive and metonymically intransitive forms of the verbs can have the same syntactic and semantic effects. The presence of BE in the agentless passive gives a more static value to the utterance, in which the resultant state of the action is focused. This resultant state is “fossilized” in time and becomes an “historical fact”: there is continuity of the past in the present; even if the action took place in the past, the resulted state of this action is still valid in the present, as an historical fact that needs to be recorded or that has traces in the present.

These effects are seen with intransitive uses of the verbs as well, but the metonymy “keeps” their semantic transitive/dynamic meaning, so that they give a less static value to the utterance (with “slide”, “move”, and “wave”), unless an explicit result is expressed, as in the case of “*handle* + adverb”.

Focus on the result of the action exemplified by the ACTION FOR RESULT metonymy is also shown with the use of the present perfect, as in:

(127) *Police in Rotterdam have seized 726 lb of cocaine in the biggest-ever haul in Dutch criminal history. - Reuter. (Corpus: 188, BNC_Written.txt at position 2361487)*

Present tense on the verb “have” implies that the current result is focused on and not the past action “seized”. Furthermore, the result of the action, that is, the seizure of cocaine, is quantified with “726 lb” so that the result is made important in the eyes of the writer. Indeed, the present perfect is used to talk about the current results of past actions. As the result of an action is highlighted with the present perfect, this latter has common features with the passive. They can also be mixed, as in:

(128) *There were 4,000 reports to the National Criminal Intelligence Service last year and in the last five years over £500,000 in cash has been seized. (Corpus: 149, BNC_Written.txt at position 1463285)*

3.2.2.6 Instrument as verb

- (129) *She stood **fingering** the tresses of the willow, branches of which wept over the upturned hull of a boat... (Corpus: BNC_Written.txt at position 4843604)*
- (130) *I decided to **hand** him a quarter whenever I saw him... (Corpus: BNC_Written.txt at position 5874387)*
- (131) *They moved toward the skiffs with shocking eagerness, **elbowing** and shoving. Four men were knocked down, but did not attempt to rise. (Corpus: Brown.txt at position 6344854)*

Examples (129), (130) and (131) reveal the MEANS FOR ACTION conceptual metonymy, in which the body part *finger*, *hand* and *elbow* are the means of the action “touch”, “give”, and “give a blow”, respectively, but metonymically designates this action. In (129) for instance, the literal counterpart of the phrase would be “touching the tresses of the willow...with her fingers”, which would be the congruent way to introduce the means of a process. The verb, “to finger”, profiles the instrument that is used by the agent, “she”, to touch the tresses of the willow, while the semantic content of the verb, “touch”, is too generic to bring any information about the instrument. The important information is thus highlighted metonymically through the use of a grammatical metaphor, so that the instrument raises to the position of the verb, which is one of the two most important arguments of a sentence, while the verb, “touch”, whose meaning is too generic, is deleted from the phrase. The creation of verbs such as “to finger” is a way to communicate efficiently thanks to word economy and emphasis on the necessary information only.

3.2.2.7 Deverbal noun

- (132) *The sickening feel of woollen gloves being pulled onto your hands and hitting and blunting your fingertips so **touch** was lost. (Corpus: 195, BNC_Written.txt at position 3727436)*
- (133) *Scratches around the brass door **handle** and lock bear witness to use over the years. (Corpus: 170, BNC_Written.txt at position 3036531)*

We may compare this kind of situation with the one in (129) and (130) above, in which the creation of verbs such as “to finger” is a consequence of the source-in-target metonymy, in which the target “to touch” represents the whole matrix domain. In (132) and (133), the deverbal noun is obtained through the ACTION FOR RESULT conceptual metonymy, based on a domain-subdomain

relationship, in which only a part of the action ICM is highlighted. These examples reveal grammatical metonymy, which allows for the recategorization of the term from verb to noun, so that the verb, “to touch”, which literally refers to an action, metonymically refers to the result of this action, that is, a physical sensation. The process (that is, the participants involved in an action) by which this sensation is produced, is kept with the metonymy, and this confers a more dynamic value on the scene described. In (133), the deverbal noun “handle” is obtained through the MANNER FOR OBJECT conceptual metonymy in which the object “handle” is conceptualized as the manner by which this object is used.

3.2.2.8 *Quantification at the origin of nominalization*

(134) *Since 1980, the UK staff have shared a massive £250m in profit sharing **hand**-outs and this year the figure should be around £50m. (Corpus: 178, BNC_Written.txt at position 1415633)*

Here, the action verb “hand-out” is reworded metaphorically as the noun “hand-out”, so that the adverb “out” originally invariable becomes quantifiable. Here again, the use of the verb “hand out” as the source, conveys a more dynamic effect on the situation.

3.3 CONCLUSION

The study of hand and manipulation in the conceptual structures of English has been made from a corpus analysis of polysemous words referring to the hand; the concept of polysemy is here associated with categorization, which is based on the identification of a prototypical literal meaning from which related metonymic and metaphoric senses are derived. These related senses have thrown light on the innate cognitive capacities of pairing and unifying (conceptual reification), and the importance or influence of our bodily experience, or embodiment, in conceptual structures. The cognitive capacity of pairing and unifying is shown by the mapping of a source domain of experience onto a target, or by a conceptual transfer by which one concept is described in terms of another. The importance or influence of our bodily experience is shown in the unidirectionality of this mapping or conceptual transfer, since this latter leads from concrete, or less abstract, meanings to more abstract ones. Different types of metonymies, metaphors, and interaction of metonymies and metaphors have been identified in cognitive linguistics over the past twenty years according to the nature and pragmatic function of the mapping.

This corpus study has been based on a classification of meanings of the polysemous body part terms *hand, finger, arm, elbow, knuckle, palm, wrist*, and their related activities *touch, push, handle, seize, manipulate* and *wield*, that is, on nouns and verbs focusing on tactile perception, and, precisely, on the role of the hands and of touching events involving the hands.

The role played by tactile perception is first visible in our experience of reality, since hand parts may often be considered the direct parts involved in our interaction with the world that surrounds us. This is reflected by literal uses of hand parts that are involved in the actions denoted by verbs; for instance, the way persons interact with the world is made possible by the means of the hands and the fingers, as is rendered explicit by the periphrastic expression *discover through one's fingers*. It is also reflected by metonymic uses of hand parts, since these latter are often the active zone or portion of the concept that directly participate in a given relation (Langacker, 1984, 1987), as in *closed against small fingers*, fingers corresponding to the active part of the whole concept *person* directly in contact with a real object, or an object that is part of reality.

The role played by tactile perception in our experience of reality is then visible in conceptual structures of language. This latter is the product of our experience of reality, and reflects how we think and how we conceptualize things. This is first shown by metonymic uses of hand parts, since these are used as points of references or bases for other concepts to “come into existence” in language, as in *arm* in *arm band*, or *wrist* in *wristwatch*, in which the body parts *arm* and *wrist* allow for the creation of word categories. It is then also shown by metaphoric uses of hand parts, since these represent invisible and symbolic body parts that are used to describe other concepts with which they share physical-, functional-, or experiential-based features, such as, *arm* in *its insurance arm*, or *push* in *push boundaries*. These invisible and symbolic body parts are also used in grammatical constructions, such as near future constructions with *hand* whose idea of present and modality of certainty is best exemplified by the idea of *control with hand*. The conceptual uses of hand parts shows the validity of the Idealized Body of Cognition. Conceptual uses of the terms that have been analyzed play an important part in language, as shown by statistics. Corpus analysis of *hand* shows that conceptual meanings of *hand* are mostly perceived, since 65% of the occurrences are used conceptually and 31% metaphorically. When used metonymically, a fictive body may be identified in 65% of the occurrences (76 out of 116 occurrences): 53% of these are used to create word categories (62 out of 116 occurrences), 9% of these are used symbolically as the concept of power (10 out of 116 occurrences), and 3% of these are used symbolically in kinegrams (4 out of 116 occurrences). Such a predominance of conceptual uses are also found with events: *handle* (90% of the occurrences), *seize* (78% of the occurrences), and *touch* (74% of the occurrences).

A general approach to the result of this corpus-based study allows for the understanding of how metaphorical meanings are conceptualized, and allows the identification of different types of similarity-based features between concrete source domains and more abstract target ones. Furthermore, according to the role played by body parts in conveying meaning, three types of bodies have been identified. These types of bodies allow placing literal, metonymic, and metaphorical meanings on a semantic scale, which may reflect the idea of metonymy-metaphor continuum. After having explained how conceptual meaning is elaborated, a more specific approach to the result of this corpus-based study allows the analysis of specific English constructions in which conceptual uses of the body part terms appear, and identifying the typical syntactic structures that are identified with these uses in English. Furthermore, grammatical metaphors (and metonymies) have shown the effects of such uses in English grammar.

The classification of meanings that has been proposed in this corpus-based study, especially the distinction between cases of metonymy and metaphor, has been based on a personal interpretation, even if an objective reasoning has been attempted. A single example might indeed be interpreted both metonymically or metaphorically, such as *touch* in “*Her heart touched on the instant by her friend's distress*”, which has been interpreted metaphorically in this study, but for which a metonymic interpretation may be perceived by some; or *arm* in *arm chair*, which has been interpreted metonymically in this study, but for which a metaphoric interpretation could be perceived by some. Such examples might also be considered indeterminate cases of metonymy and metaphor, that is, cases for which both metonymical or metaphorical interpretations are justified, *or* for which *neither/none of these* interpretations might be chosen. However, all the examples in this study have been classified according to the preferred interpretation, so that no indeterminate cases have been considered.

Furthermore, this study has been based on a corpus of examples that are considered representative of the English language, but is not considered an exhaustive study on hand and manipulation. First, other hand part terms would have been interesting to study as well, such as the verbs *grasp* or *make*. Next, other types of structures and constructions in which the focused body part terms may appear would have been interesting to study as well, such as manipulative constructions with *push* and *manipulate*, as in *He pushed them to leave*, *He pushed her into giving evidence* or *He manipulated them into agreeing to help*, which are identified as cases of “successful manipulation” (Givón, 1993); this latter generally implies a coercive type of relationships between two participants, which leads to the accomplishment of the action denoted by the non-finite verb.

APPENDIX 1: HAND

BNC (written) (1,007,000)

Literal sense: 150/424 = 35%

Conceptual sense: 274/424 = 65%

(•) = types of objets “touched” by the means of the hand(s) or types of objets in contact with the hand(s)

1 Literal sense : body-part *hand* (150/424)

Hand as noun (150/150)

→ contact: body-part (70/150)

6. 162 He laid the palm of his **hand** across Elisabeth's forehead and pressed back the curls that tumbled over her brow. (Corpus: BNC_Written.txt at position 4904988)

9. 177 They walked hand in **hand** along the cliff-top path at Møns Klint, and watched the sea. (Corpus: BNC_Written.txt at position 4907522)

17. 135 Then Queen Mary took Edward's **hand** and kissed it. "My child, you are now King," she said softly. "God be with you." (Corpus: BNC_Written.txt at position 5952003)

22. 177 He held her **hand** and said, " You must go in by yourself, and tell Mother very quietly that it's all right. They've caught the man who did it. Everyone knows now that your Daddy isn't a spy." (Corpus: BNC_Written.txt at position 5399576)

23. 190 When Edward arrived, he went straight to his father's room. He walked to the side of the bed and kissed his father's white face. The King opened his eyes and smiled. Then he took his son's **hand** and said: "Be a good King, Edward. And be good to your mother."(Corpus: BNC_Written.txt at position 5951791)

25. 147 She put out a **hand** and touched the nearest arm, and the driver turned round quickly. "What are you doing here?" he shouted. (Corpus: BNC_Written.txt at position 5370263)

37. 151 "It just can not be. Why, only yesterday the king was speaking with me, calling me his little daughter-in-law and patting my **hand** as was his wont. He is neither ill nor old -- not very old, that is. You are surely mistaken." (Corpus: BNC_Written.txt at position 5088996)

38. 195 Sister Cleeve clasped my **hand** as we went to our " Action Stations. One part of us was hit, and the glass cascaded down the walls of the main building like a running stream. (Corpus: BNC_Written.txt at position 2790431)

40. 183 It was dark outside. The only light came from the big fire. I held my father's **hand** at first and we danced together. My mother danced away and I couldn't see her. Soon I lost my father. I didn't know where they were. (Corpus: BNC_Written.txt at position 5401393)
47. 175 "This weekend, come back and stay with us. Your father misses you terribly. He's too proud to —" "I can't," I said, pulling my **hand** away from hers, shaking my head. "I need to work this weekend. Got a lot to do. Finals coming up." (Corpus: BNC_Written.txt at position 5771109)
48. 130 Good God, thought Rory. He took another quick glance down the hall, then looked back through the key-hole. Fiona took her **hand** away. "Hmm. Yes; actually I already could, Fergus." "I need you!" He pulled her close again. (Corpus: BNC_Written.txt at position 5660392)
72. 191 He took her **hand** but this time, instead of the formal kiss, he turned her hand over and kissed the palm, sending little ripples of pleasure coursing through her body.(Corpus: BNC_Written.txt at position 5072997)
78. 183 GUIL taps one. ROS opens it to show a coin. He gives it to GUIL. Repeat. Repeat. GUIL getting tense. Desperate to lose. Repeat. GUIL taps a **hand**,changes his mind, taps the other, and ROS inadvertently reveals that he has a coin in both fists.) (Corpus: BNC_Written.txt at position 5556539)
80. 145 If you aren't using flags, cross your arms in front of your body with your right **hand** clasped over the left. (Corpus: BNC_Written.txt at position 504438)
99. 189 He yawned, glanced at Janice again. "Bit tired," he said to her, yawning unconvincingly once more. "Fancy goin' to —?" " What " Janice said brightly, slapping her **hand** down on Gavin's bulky shoulder, "— a good idea!" (Corpus: BNC_Written.txt at position 5760563)
113. 176 Prince Edward too kissed Anne's **hand**, greeting her courteously as his much-esteemed sister-in-law -- but his manner was detached, his expression carefully veiled. (Corpus: BNC_Written.txt at position 5037137)
118. 160 Your capacity for trust made me wonder if perhaps... you, alone... (He turns on him suddenly, reached out a hand.) Touch. (ROS clasps his **hand**. GUIL pulls him up to him. More intensely) We have been spinning coins together since -- (He releases him almost as violently.) (Corpus: BNC_Written.txt at position 5453685)
123. 149 ...with pretended regret, putting his feet up on the low wall of the terrace and rocking his seat back on its rear legs as he shaded his eyes with one **hand**. He brought his drink up to his lips with the other. (Corpus: BNC_Written.txt at position 5795326)
126. 172 He licked his lips, rubbed his right index finger and thumb together for a couple of seconds and held Prentice's foot steady with his left **hand**. (Corpus: BNC_Written.txt at position 5635771)
133. 168 Buff stood next to me and held my **hand**. His hand was large and a little wet. (Corpus: BNC_Written.txt at position 5406837)
137. 145 Soon the Mayor was shaking the Captain by the **hand**. "I am honoured indeed, Sir," he said unctuously. (Corpus: BNC_Written.txt at position 4992930)
139. 151 He came forward at once, his hands held out in greeting. "What joy to receive you thus!" he told her warmly, taking and kissing her **hand**. (Corpus: BNC_Written.txt at position 5179043)
140. 146 "Oh well, there is no accounting for tastes! Edward is quiet and aloof -- one can not tell what he is thinking. When he looks at me and kisses my **hand**, I go all shivery -- would you believe that!" (Corpus: BNC_Written.txt at position 5041680)
141. 141 The Duke smiled and touched her **hand**. "I know that I'm often late," he said. "But on our wedding day, I arrived at the church twenty minutes before you. I was early and you were late." (Corpus: BNC_Written.txt at position 5966571)

- 142.** 165 Edward took a pen and wrote his name at the bottom of the page. Then he stood up and kissed his brother's **hand**.
"I never wanted this to happen," George said. "This is the worst day of my life." (Corpus: BNC_Written.txt at position 5961493)
- 144.** 165 "I used to worry about Darth Vader," Prentice confessed, putting his arm round Rory's waist and lifting his foot to massage it with one **hand**. (Corpus: BNC_Written.txt at position 5645725)
- 152.** 169 Elisabeth and Daniel had no appetite for the one and no confidence in the other. They walked **hand** in hand along the cliff-top path at Møns Klint, and watched the sea. The Baltic lay becalmed that day, yet left no doubt that when aroused it could rage like a maddened beast. (Corpus: BNC_Written.txt at position 4907514)
- 161.** 159 "Did you know," Janice said to Rory, squeezing his **hand**. "In the Dewey Decimal System, glass-making comes under the code six six six?" (Corpus: BNC_Written.txt at position 5799142)
- 175.** 186 In the end, he took her **hand**.
"Karen, this is very dangerous. I'm afraid for you. Perhaps someone does want to kill you. (Corpus: BNC_Written.txt at position 5928698)
- 190.** 146 ...round the restaurant through the confusing topography of slats and uprights of the seats and screens, apparently worried that this minor lapse in **hand**-mouth coordination was being critically observed by any of the surrounding middle-class matrons, perhaps with a view to passing on the scandalous morsel to their opposite numbers in Gallanach and having mother black-balled from the... (Corpus: BNC_Written.txt at position 5763991)
- 195.** 163 Buff was still holding my **hand**. My father spoke again. "Buffalo, will you take my daughter Hummingbird to be your wife for one year, in the name of Earth...(Corpus: BNC_Written.txt at position 5407387)
- 204.** 136 Prentice shook his head, and slapped one **hand** off his forehead. (Corpus: BNC_Written.txt at position 5645918)
- 206.** 161 Harald put his **hand** on Carl's arm. Carl looked at him. Harald did not speak, but he was looking at the girl, very carefully. (Corpus: BNC_Written.txt at position 6015115)
- 212.** 175 "Hey..." Ash said gently, putting her **hand** on my head and patting me. (Corpus: BNC_Written.txt at position 5695528)
- 213.** 154 "Prentice," mum said, putting her **hand** on my head and running her fingers through my hair. (Corpus: BNC_Written.txt at position 5702888)
- 214.** 141 She put one **hand** on my shoulder. "Heard what David Bowie's latest film's called?" (Corpus: BNC_Written.txt at position 5623434)
- 217.** 192 "You must go in my stead, Joan," she said, placing a feverish **hand** on that of her companion. "You must go and then you can tell me of it afterwards. You shall wear my gown." (Corpus: BNC_Written.txt at position 5050169)
- 220.** 169 The bearded man came out of the Captain's cabin and put his **hand** on the girl's arm. "Stop it, little flower," he said. "Don't talk to them. That's not your job." (Corpus: BNC_Written.txt at position 6004672)
- 221.** 179 Mr Churchill came over and put his **hand** on the King's arm. Edward looked up. "Thank you, Winston," he said. (Corpus: BNC_Written.txt at position 5960391)
- 222.** 163 Harald put his **hand** on the older man's arm and stopped talking. Carl looked up and saw the young air hostess staring at them. Her machine gun was pointing at them too. He stopped talking and looked out of the window. (Corpus: BNC_Written.txt at position 5979154)
- 240.** 192 He took her hand but this time, instead of the formal kiss, he turned her **hand** over and kissed the palm, sending little ripples of pleasure coursing through her body. (Corpus: BNC_Written.txt at position 5073060)

242. 133 "Let's hold hands," said Jim. He put his large **hand** over her small one. Then they sat and waited. (Corpus: BNC_Written.txt at position 5392744)

243. 196 ...and with a look so piteous, he takes her by the wrist and holds her hard, then he goes to the length of his arm, and with his other **hand** over his brow, falls to such perusal of her face as he would draw it... (Corpus: BNC_Written.txt at position 5478678)

274. 149 ROS: No.(Repeat process. GUIL indicates left hand again. ROS shows it empty.) Double bluff! (Repeat process -- GUIL taps one hand, then the other **hand**, quickly. ROS inadvertently shows that both are empty. ROS laughs as GUIL turns upstage. (Corpus: BNC_Written.txt at position 5506024)

267. 191 ...and with the other hand she felt down the length of his body, over ribs and waist and hips, and with another grunt reached round and under, taking his balls in her **hand**, pressing them and kneading them and squeezing them. (Corpus: BNC_Written.txt at position 5747885)

285. 171 Gavin's **hand** rubbed up and down on Janice's lap. Gav's face gave no sign he was aware of doing this. (Corpus: BNC_Written.txt at position 5758807)

291. 177 "My lord and all my lords here present, I will not be so suspicious as to mistrust your truths," she said, her voice charged with emotion. Taking the prince by the **hand**, she continued, "Lo, here is this gentleman whom I doubt not would be safely kept by me, if I were permitted..." (Corpus: BNC_Written.txt at position 5142442)

294. 176 ...the small of his back, rocking to and fro, feet crossed one over the other, locked there; with one splayed hand she held onto his back, pressing him to her, and with the other **hand** she felt down the length of his body, over ribs and waist and hips, and with another grunt reached round and under, taking his balls in her hand, pressing them and kneading them and squeezing them. (Corpus: BNC_Written.txt at position 5747737)

295. 172 ...thin, plunging, globe-buttocked behind, until her ankles were in the small of his back, rocking to and fro, feet crossed one over the other, locked there; with one splayed **hand** she held onto his back, pressing him to her, and with the other hand she felt down the length of his body, over ribs and waist and hips, and with another grunt reached round and under, taking his balls in her...(Corpus: BNC_Written.txt at position 5747667)

296. 130 Victoria appeared in the doorway. "You came!" she said happily, seizing Elizabeth's **hand**. She led her up a stone staircase into a small room where Brownies were sitting on wooden toadstools. (Corpus: BNC_Written.txt at position 515439)

318. 184 ...without Tom's help, he had outwitted his most terrible enemy and he could not resist cocking a very vulgar snook at Cut-throat Jake as he went over to shake the Dragoon officer by the **hand**. (Corpus: BNC_Written.txt at position 4999942)

336. 187 Then Queen Mary took Edward's hand and kissed it. "My child, you are now King," she said softly. "God be with you." His three brothers came to him, one by one, and they each kissed his **hand**. "The King is dead. Long live the King," they said. (Corpus: BNC_Written.txt at position 5952163)

344. 186 (Repeat process. GUIL indicates left hand again. ROS shows it empty.) Double bluff! (Repeat process -- GUIL taps one **hand**, then the other hand, quickly. ROS inadvertently shows that both are empty. ROS laughs as GUIL turns upstage. ROS stops laughing, looks around his feet, pats his clothes, puzzled. (Corpus: BNC_Written.txt at position 5506002)

346. 171 Edward kissed Queen Mary's **hand**. Then he turned and walked away. (Corpus: BNC_Written.txt at position 5962306)

350. 160 "Keep your mouth shut!" he said. "Think about your wife instead. Do you see the time? I think she has forgotten you!"

Carl groaned and held his mouth with his **hand**. There was blood in his mouth and one of his teeth was broken. Then he looked at his watch. It was 2.23. Seven minutes left; then the half hour was over. (Corpus: BNC_Written.txt at position 6004970)

- 351.** 193 Harald touched his head with his **hand**. There was blood in his hair.
"How do you feel, my young friend?" Carl asked. (Corpus: BNC_Written.txt at position 6001828)
- 358.** 190 She ran her **hand** through her hair and then looked at her watch. But her hand was shaking so much that she could not tell the time. (Corpus: BNC_Written.txt at position 6000768)
- 359.** 166 She ran her **hand** through her hair and turned the light on. (Corpus: BNC_Written.txt at position 5976432)
- 360.** 166 He looked at his reflection in the window over the sink. He pulled one splayed **hand** through his hair. Maybe he ought to have a shower or something. (Corpus: BNC_Written.txt at position 5741783)
- 361.** 153 "Aw, come on, Ken," Rory said, a pained expression crossing his face. He ran a **hand** through his short, straight hair. (Corpus: BNC_Written.txt at position 5803205)
- 373.** 156 HAMLET clears his throat noisily and spits into the audience. A split second later he claps his **hand** to his eye and wipes himself. He goes back upstage.) (Corpus: BNC_Written.txt at position 5573488)
- 376.** 180 My mother giggled again, **hand** to mouth, then delved into the meringue. (Corpus: BNC_Written.txt at position 5765719)
- 384.** 177 PLAYER: (Gravelly) I beg your pardon.
GUIL: (To ROS) What did he do?
PLAYER: I put my foot down.
ROS: My hand was on the floor!
GUIL: You put your **hand** under his foot?
ROS: I
GUIL: What for? (Corpus: BNC_Written.txt at position 5524709)
- 385.** 183 Sensing that the old woman was about to rise from the bench, the cat jumped from her lap and stood by her side. Elisabeth put her **hand** under Rosa Jacobsen's elbow and led her into the cottage. (Corpus: BNC_Written.txt at position 4951096)
- 387.** 182 God knows why, but she seemed to associate that with pleasure." Fiona gave a sort of strangled laugh, then put one **hand** up suddenly to her nose, and looked away, and sobbed once. (Corpus: BNC_Written.txt at position 5810647)
- 388.** 176 Lewis jumped off the Range Rover (Verity wobbled a little as the car bounced on its springs, but recovered); he stood at the side of the car, between me and it, and held one **hand** up to Verity. She danced on, oblivious, then he must have said something, and she danced seductively, fluidly, to the edge of the roof, hips moving slow, a big smile on her face as she looked down at Lewis...(Corpus: BNC_Written.txt at position 5628372)
- 394.** 163 "Nay, nay!" cried the agonised voice. "Nay, it cannot be. God have pity! Christ have pity! Not Edward, my beloved Edward..."
The dreadful cries ceased as a **hand** was clapped roughly over the young woman's mouth. She struggled for a few moments until, overcome apparently by shock, she lost consciousness. (Corpus: BNC_Written.txt at position 5232894)
- 413.** 173 God, the best time I've had in the past five years was one night with Lachy Watt, angry at Ferg, and more surprised than anything else. The way he just took my hair in one **hand**, while we were standing looking up at that God-awful window in the great hall, and turned my head to him, and pulled me close... (Corpus: BNC_Written.txt at position 5818164)
- 417.** 148 "How good it is to see you!" Richard of York said enthusiastically to Joan, as soon as they were alone. He kissed her **hand** with courtly grace, displaying an air of bonhomie reminiscent of his father. (Corpus: BNC_Written.txt at position 5165498)
- 419.** 140 Now that he could do nothing, he felt afraid. He could feel his hand in the handcuffs shaking. Harald felt it too and held Carl's **hand** with his own. (Corpus: BNC_Written.txt at position 6009758)

420. 191 He kissed her **hand** with practised elegance as she made her curtsy and exchanged pleasantries with her, displaying a *savoir-faire* rare in one of his years. (Corpus: BNC_Written.txt at position 5036957)

→ [contact : concrete object \(43/150\)](#)

8. 192 Kenneth turned to Rory and Janice. He tugged on Rory's sleeve and in a low monotone said, "Dad, I'm bored, dad; dad, are we nearly finished yet, dad? Dad, want to go home, dad." He leant one **hand** against the glass wall, glanced back at Hamish — still deep in conversation, and nodding — and rolled his eyes. (Corpus: BNC_Written.txt at position 5794064)

12. 180 One of the hijackers, a young man in a black shirt, was just behind them. He had a bag in his **hand** and he was taking everyone's passports and putting them in it. (Corpus: BNC_Written.txt at position 5985584)

16. 171 He had a gun in his **hand** and he came backwards down the steps. (Corpus: BNC_Written.txt at position 6018003)

21. 164 (He holds his hand out for the dagger. GUIL slowly puts the point of the dagger on to the PLAYER's **hand**, and pushes... the blade slides back into the handle. (Corpus: BNC_Written.txt at position 5583208)

27. 154 In drawing he said, "You must liken your attempts at it to a visit made to a strange town without a guide. You take your map in your **hand** and try to find the most central position -- the town hall or post office. Then you walk down one street, and you say, " Well I had better get back to my bearings, or I shall lose myself and you go back to the town hall. (Corpus: BNC_Written.txt at position 1185232)

51. 152 GUIL taps one fist. ROS opens it to show a coin. He gives it to GUIL. He puts his **hand** back into his purse. Then both hands behind his back, then holds his fists out. GUIL taps one. ROS opens it to show a coin. He gives it to GUIL. (Corpus: BNC_Written.txt at position 5556311)

57. 151 She turned round quickly. A tall man was standing just behind her chair with a coffee in his **hand**. (Corpus: BNC_Written.txt at position 5907381)

70. 184 It seemed to Joan that the wedding-ring was burning her finger; it caught the light, glistening brightly as if wishing to draw attention to the fact that it was embellishing an alien **hand**. (Corpus: BNC_Written.txt at position 5056825)

100. 168 (ROS approaches him brightly, holding a coin between finger and thumb. He covers it with his other **hand**, draws his fists apart and holds them for GUIL. GUIL considers them. Indicates the left hand, ROS opened it to show it empty.) (Corpus: BNC_Written.txt at position 5505735)

110. 168 Emblem. Emblem of fashion.
Wearing dirty white in dishevelment as delicate
as the falling draperies on a dandyish
Renaissance saint.
Chain round his waist.
One **hand** gloved. (Corpus: BNC_Written.txt at position 5872561)

125. 155 Then a man in white ran through the door with a gun in his **hand**. He shot the girl and the bearded man before they could move. (Corpus: BNC_Written.txt at position 6016064)

130. 141 Ash and I found a space over near the piano. She reached over the piano to a pile of little plastic cups, grabbed one and shoved it into my **hand**. "Here; have a drink." She sloshed some whisky into the cup. (Corpus: BNC_Written.txt at position 5623002)

131. 185 Surreptitiously, her **hand** hidden within the furry confines of her muff, Anne made the sign of the cross. In the name of the Father and the Son ... (Corpus: BNC_Written.txt at position 5077141)

- 156.** 187 They knew she was on the Union Committee and they were afraid of her. All the managers knew that Karen was on the Committee because she always had a notebook in her **hand**. In her notebook she wrote down all the scanner alarms, every shower and every other danger in the factory. (Corpus: BNC_Written.txt at position 5914652)
- 163.** 160 Now that he could do nothing, he felt afraid. He could feel his **hand** in the handcuffs shaking. Harald felt it too and held Carl's hand with his own. (Corpus: BNC_Written.txt at position 6009691)
- 165.** 183 ROS: (ROS puts a **hand** into his purse, then both hands behind his back, then holds his fists out. GUIL taps one fist. ROS opens it to show a coin. He gives it to GUIL. He puts his hand back into his purse. (Corpus: BNC_Written.txt at position 5556146)
- 172.** 140 Anne's pearl necklace adorned her throat, and her gold ring the third finger of Joan's left **hand**. (Corpus: BNC_Written.txt at position 5056631)
- 174.** 158 No longer weeping, she was in déshabillé and, Anne noticed, was wearing the prince's ring on the third finger of her left **hand**. (Corpus: BNC_Written.txt at position 5095103)
- 177.** 163 The air hostess had a machine gun in her **hand**. (Corpus: BNC_Written.txt at position 5974627)
- 182.** 155 GUIL takes another coin, spins it, catches it, turns it over on to his other **hand**, looks at it, and throws it to ROS who puts it in his bag. (Corpus: BNC_Written.txt at position 5454533)
- 205.** 165 GUIL: (Lifts his foot, squats; picks up the coin still squatting; looks up) You were right-- heads. (Spins it, slaps his **hand** on it, on the floor.) Heads I win. (Corpus: BNC_Written.txt at position 5473648)
- 209.** 190 I think he would have tore into Russell the next second, with his fists or his revolver, but now the Spencer was levelled at his belly; almost touching it. Early had his **hand** on his gun, but it had happened so fast even he couldn't do anything. (Corpus: BNC_Written.txt at position 6064354)
- 224.** 138 Janice looked puzzled for a second, then said, "Oh; yes, of course; Fiona..." she looked embarrassed. Rory patted her **hand** on the table. (Corpus: BNC_Written.txt at position 5798159)
- 233.** 141 (He holds his **hand** out for the dagger. GUIL slowly puts the point of the dagger on to the PLAYER's hand, and pushes... the blade slides back into the handle. The PLAYER smiles, reclaims the dagger.) (Corpus: BNC_Written.txt at position 5583122)
- 235.** 170 He put one **hand** out, feeling for a table; he found what felt like one, and then a long cold metal stem. Reaching up he felt a switch. (Corpus: BNC_Written.txt at position 5739167)
- 263.** 150 And he saw the ring, his ring, that she was wearing openly for the occasion, beside Anne Mowbray's wedding-ring on the third finger of her left **hand**. (Corpus: BNC_Written.txt at position 5179616)
- 264.** 152 There was another small sheet of blue writing paper, in Janice Rae's **hand**. "Prentice — had a look at this—" (then the word "while", crossed out heavily, followed by the word "before", also nearly obliterated) (Corpus: BNC_Written.txt at position 5615362)
- 278.** 160 GUIL takes a third coin, spins, it, catches it in his right hand, turns it over on to his left wrist, lobs it in the air, catches it with his left **hand**, raises his left leg, throws the coin up and under it, catches it and turns it over on to the top of his head, where it sits. (Corpus: BNC_Written.txt at position 5454750)
- 286.** 175 "Sit down," Janice told him, taking his glass from his **hand**. (Corpus: BNC_Written.txt at position 5800520)
- 292.** 135 She looked very different now because she had a machine gun in her **hand**. She stood at the front of the plane and watched the passengers carefully. (Corpus: BNC_Written.txt at position 5975032)
- 293.** 173 And, with a packet in her extended **hand**, she asked, "Shall I put this straight into your basket?" (Corpus: BNC_Written.txt at position 4869543)

297. 190 ...outside and began to rearrange her belongings to fit more neatly in the bicycle basket, Elisabeth Danziger found a bar of fleur-de-lis soap and a cube of rose geranium bath crystals in her **hand**. She put them under her raincoat in the basket and looked at the receipt the chemist had handed her from the till; there was no evidence that she had paid for these items. (Corpus: BNC_Written.txt at position 4908675)

298. 191 Holding her shoes in one **hand**, she ran the other down over her body to one thigh, then back to her head and through her cropped blonde hair. (Corpus: BNC_Written.txt at position 5627954)

299. 171 She shone her torch round the gruesome chamber until she found the sodden stone she sought. Black lichen clung to it like rind. With her gloved **hand** she rubbed and rubbed until the deeply incised ED/DE emerged. (Corpus: BNC_Written.txt at position 4920809)

317. 152 (Energizing himself somewhat.) (He takes out a coin, spins it high, catches it, turns it over on to the back of his other **hand**, studies the coin -- and tosses it to ROS. His energy deflates and he sits.) (Corpus: BNC_Written.txt at position 5452594)

324. 149 Everyone seemed to have a newspaper in their **hand** that morning. Several people waved theirs at Bobbie, and smiled as she went by — people who never usually waved or smiled at her. (Corpus: BNC_Written.txt at position 5398161)

329. 130 Alphabet semaphore chart
READY TO GO

Stand with feet apart, a flag in either **hand**, the arms straight and pressed close to the body. The flags should be crossed in front of your shins, the right flag over the left. (Corpus: BNC_Written.txt at position 504081)

363. 185."I thought I was going to miss you!" she shouted, and pushed a letter into his **hand**, through the window, as the train moved away. (Corpus: BNC_Written.txt at position 5364223)

382. 138 GUIL takes a third coin, spins, it, catches it in his right **hand**, turns it over on to his left wrist, lobs it in the air, catches it with his left hand, raises his left leg, throws the coin up and under it, catches it and turns it over...(Corpus: BNC_Written.txt at position 5454661)

383. 150 Through the window, Carl saw a man in a white coat run out from under the plane with something that looked like a grenade in his **hand**. Two other men in white ran out behind him.(Corpus: BNC_Written.txt at position 6015448)

393. 172 Peter took the end of a candle from his pocket, and his **hand** was shaking when he lit it with a match. (Corpus: BNC_Written.txt at position 5390647)

401. 173 I dreamt of Uncle Rory coming home, driving the old Rover Verity had been born in, the window open, his arm sticking out, him smiling and holding the missing folder in his **hand**; waving it. (Corpus: BNC_Written.txt at position 5711212)

405. 191 "Indeed so great was the press of people around us, that I gripped my brother's arm lest he be trampled underfoot. My right **hand** went instinctively to my sword, thus to force a way through the crowd and take my rightful place. But caution prevailed. Such action, I believed -- and still believe -- would have played into the hands of my enemies. (Corpus: BNC_Written.txt at position 5187763)

416. 181 She shoved a set of keys into my **hand**. "Will ye pop down to the cellar, for us?" Mrs S shouted. "Get another litre of whisky; it's the second archway on the left. Din nae let anybody down with you, mind; keep that door locked." (Corpus: BNC_Written.txt at position 5626922)

→ contact : 0 (25/150)

7. 164 GUIL considers them.
Indicates the left hand, ROS opened it to show it empty.)
ROS: No.

(Repeat process. GUIL indicates left **hand** again. ROS shows it empty.) Double bluff! (Repeat process -- GUIL taps one hand, then the other hand, quickly. ROS inadvertently shows that both are empty. ROS laughs as GUIL turns upstage. (Corpus: BNC_Written.txt at position 5505921)

14. 192 Lamarr jumped back dropping the broken pieces and with blood all over his **hand** and face.(Corpus: BNC_Written.txt at position 6064164)

15. 154 He swung one foot out, to the next joist, then put out one **hand** and felt for the next rafter; he transferred his weight carefully. (Corpus: BNC_Written.txt at position 5744092)

32. 158 ...the Voice of God in Britten's second canticle Abraham and Isaac, composed just before Gloriana. "When head and heart are hot / Then tongue and **hand** are wild: / So, Ma'am, it looks to me". Raleigh replies when the Queen asks him what he thinks of the dispute between Essex and Mountjoy, and the last line is set with a homely finality... (Corpus: BNC_Written.txt at position 1307738)

39. 133 CLAUDIUS: Welcome, dear Rosencrantz... (He raises a **hand** at GUIL while ROS bows -- GUIL bows late and hurriedly)... and Guildenstern. (Corpus: BNC_Written.txt at position 5479328)

42. 169 CLAUDIUS: Welcome, dear Rosencrantz... (He raises a hand at GUIL while ROS bows -- GUIL bows late and hurriedly)... and Guildenstern. (He raises a **hand** at ROS while GUIL bows to him -- ROS is still straightening up from his previous bow and half way up he bows down again. With his head down, he twists to look at GUIL, who is on the way up.) (Corpus: BNC_Written.txt at position 5479430)

81. 149 That was when Russell stood up. His eyes never left Lamarr Dean, but his right **hand** closed on the Spencer and it was down at his side as he walked over the few steps to the bar. (Corpus: BNC_Written.txt at position 6063335)

111. 176 "Not at all," Fergus said, waving one **hand**. "Go ahead." He watched carefully as Rory set out the papers. (Corpus: BNC_Written.txt at position 5672026)

124. 179 He came right through the gate. I introduced them and Mr. Mendez nodded. Dr. Favor didn't rise or even reach out his **hand**. (Corpus: BNC_Written.txt at position 6076129)

138. 140 Yea, Joan thought, I would believe it -- and he has not even kissed my **hand**! "I believe Edward likes me," continued Anne. "Though needless to say he keeps his thoughts to himself." (Corpus: BNC_Written.txt at position 5041807)

157. 169 "The congenitallyodd-jeaned person to my left will take my place," I mumbled, waving one **hand** in his direction before letting my head resume its communion with Hamish and Tone's lounge carpet. (Corpus: BNC_Written.txt at position 5689511)

169. 186 Then I saw the small monster too. It was lying on the ground. It was hurt. It was very small, just a little bigger than my **hand**. (Corpus: BNC_Written.txt at position 5416202)

228. 185 The dragons couldn't get you through the air-hole; they could only get you if you put out a foot or a **hand**, or worst of all your head; that was when they struck; bit it off, or pulled you right out and ate all of you." (Corpus: BNC_Written.txt at position 5640291)

234. 166 He tried to put one **hand** out to stop himself, but the gun was still in his grip. The long, blue-black barrel arced towards Fergus. (Corpus: BNC_Written.txt at position 5676795)

284. 139 He covers it with his other hand, draws his fists apart and holds them for GUIL. GUIL considers them. Indicates the left **hand**, ROS opened it to show it empty.) (Corpus: BNC_Written.txt at position 5505830)

333. 169 Braden held out his **hand**. The ex-solder gave him his ticket. Then he picked up his bag and walked out. Braden didn't even offer to pay him for the ticket. (Corpus: BNC_Written.txt at position 6091429)

343. 187 The old woman waved a frail **hand**. (Corpus: BNC_Written.txt at position 4963914)

345. 167 He looked round, first at his **hand**, then at Janice, who was smiling radiantly at him, and finally at me. (Corpus: BNC_Written.txt at position 5760289)

392. 150 Fiona leant back against the rear of the dressing table, breathing hard, and waved one **hand**, wafting air over her face. (Corpus: BNC_Written.txt at position 5658406)

395. 160 "Good evening, Colonel." Helen shook hands with the soldier and looked at him. He was a thin, tough-looking man, about forty years old, with a brown face. His **hand** was hard and strong. (Corpus: BNC_Written.txt at position 5980882)

397. 178 Buff stood next to me and held my hand. His **hand** was large and a little wet. (Corpus: BNC_Written.txt at position 5406847)

399. 139 She ran her hand through her hair and then looked at her watch. But her **hand** was shaking so much that she could not tell the time. (Corpus: BNC_Written.txt at position 6000829)

404. 192 The Town Clerk held up his **hand**. "We, that is our most worshipful Mayor and his associates, are determined to see an end to this plague of smuggling. But we do not wish to appear personally involved in such unsavoury matters. (Corpus: BNC_Written.txt at position 4994447)

412. 180 Reading and writing lesson -- formal but much enjoyed by the children.

Learning to change position from lying

"Hands" group with Spina Bifida children

Learning to fix with one **hand** while moving the other

Waiting (Corpus: BNC_Written.txt at position 3707565)

426. 152 To make mistakes, as which of us has not.

For if across the underwater sand

Skindivers sometimes dancingly intrude,

It may confuse the fingers of a **hand**,

Wriggling through water, for its favourite food.

(Corpus: BNC_Written.txt at position 5872024)

427. 153 "What, Oban?"

"The very place."

"Good grief."

"You don't mind me saying this, I mean talking about Fiona like

this, do you?"

"No, no." He waved one **hand**. "Your wife; you talk about her. No, no, that's bad, that sounds bad. I'm all for women's lib." (Corpus: BNC_Written.txt at position 5661766)

→ [contact : material, substance \(4/150\)](#)

24. 175 I knew all these stars were a long, long way away but they didn't look far away. They looked very close; I wanted to reach out my **hand** and touch them. (Corpus: BNC_Written.txt at position 5409647)

158. 174 He waited, breathless, heart hammering in the darkness, one **hand** in his trouser pocket, stroking himself. (Corpus: BNC_Written.txt at position 5661427)

306. 184 Nobody could find me now. I was in the middle of the Galaxy in empty space. There were stars above my head, stars below my feet, stars on my left **hand**, stars on my right hand. (Corpus: BNC_Written.txt at position 5409473)

315. 172 Nobody could find me now. I was in the middle of the Galaxy in empty space. There were stars above my head, stars below my feet, stars on my left hand, stars on my right **hand**. (Corpus: BNC_Written.txt at position 5409497)

→ contact : 2 (3/150)

210. 191 He turned without another word and walked over to John Russell with that soft ching-ing spur sound. He said, "That boy at the counter said you got a stage ticket." John Russell opened his **hand** on his lap. "This?" "That's it. You give it to me and you can take the next stage." (Corpus: BNC_Written.txt at position 6087916)

231. 181 "Come back, Prentice," she said, putting one **hand** out across the table to me. Her brown eyes looked hurt. "This weekend, come back and stay with us. Your father misses you terribly. He's too proud to —" (Corpus: BNC_Written.txt at position 5770909)

232. 178 Ash reached one **hand** out across the table and spilled my brandy into my lap. (Corpus: BNC_Written.txt at position 5781566)

→ contact: material entity (not concrete object, as no physical boundaries) (2/150)

219. 158 ROS: Excuse me. (The PLAYER lifts his downstage foot. ROS bends to put his **hand** on the floor. The PLAYER lowers his foot. ROS screams and leaps away.) (Corpus: BNC_Written.txt at position 5524470)

398. 134 PLAYER: (Gravelly) I beg your pardon.
GUIL: (To ROS) What did he do?
PLAYER: I put my foot down.
ROS: My **hand** was on the floor!
GUIL: You put your hand under his foot?
ROS: I(Corpus: BNC_Written.txt at position 5524664)

→ contact : person (2/150)

26. 175 She put out a **hand** and touched the prostrate woman -- and drew it away in distress. Bess Halidon was dead-- though not yet cold. (Corpus: BNC_Written.txt at position 5014882)

50. 149 Fergus," she told him. "Nothing ever doesn't matter." She strained over a little more. " Fergus —" she said. He pushed her away with his left **hand**, back into her seat. She sat there, mouth open. He seemed to understand the silence and glanced over, a weak smile flickering on his face. (Corpus: BNC_Written.txt at position 5808385)

→ contact: living entity (1/150)

69. 162 The big monster sat down with me. I hit it with my **hand** but I still wasn't strong. I didn't hurt it. (Corpus: BNC_Written.txt at position 5416827)

Conclusion: types of objets with sense 1 (*hand* = body-part) (/150):

- body-part: 70/150
- concrete objects: 43/150
- no objet in contact with the hand (contact: 0): 25/150
- material, substance: 4/150
- 2 objets in contact with the hand (contact: 2): 3/150
- material entity: 2/150
- person : 2/150
- living entity: 1/150

2 Conceptual sense (274/424)

2.1 Metonymies (116/274)

2.1.1 *manual, “humanly-based”* (57/116)

Hand as noun, adjectival position (27/57)

→ [contact : concrete object \(22/27\)](#)

30. 180 4.4 First Aid **Hand** Appliances

The use of portable fire extinguishers particularly of the class A type and of hose reels should be encouraged to the requirements... (Corpus: BNC_Written.txt at position 4333397)

46. 187 If large curtains are vacuumed in situ with a **hand** attachment, this will keep the fabric fresh and prevent a build-up of dust, reducing the need for frequent cleaning. (Corpus: BNC_Written.txt at position 564234)

49. 140 Elizabeth had been amazed to see workmen slicing through stone blocks with **hand**-axes, just as easily as cutting butter. (Corpus: BNC_Written.txt at position 512656)

105. 194 Marginal plants are divided in the same way as ordinary herbaceous perennials, using two **hand** forks back to back and prising the plants apart. (Corpus: BNC_Written.txt at position 763457)

114. 189 A Soviet-made pistol was found at the scene of the explosion and a large arms cache-- including 17 mines, assault rifles and **hand** grenades -- was later discovered at the home of the two men. (Corpus: BNC_Written.txt at position 2464050)

115. 172 Tass said journalists were shown money and **hand** grenades seized from him and a tape recorder "with the text of the oath Soviet citizens were expected to take when recruited. (Corpus: BNC_Written.txt at position 2217418)

116. (same as 115) 160 Tass said journalists were shown money and **hand** grenades seized from him and a tape recorder with the text of the oath Soviet citizens were expected to take when recruited. (Corpus: BNC_Written.txt at position 2283339)

117. 154 ...early eighteenth century, were subjected to genocidal slaughter by troops using the up-to-date weapons of Peter the Great's military machine: muskets and **hand** grenades. (Corpus: BNC_Written.txt at position 3312606)

119. 151 ...20s, who cruised the streets of Panama City in trucks and open Jeeps, armed with clubs, rubber truncheons (akin to South African sjamboks), knives and **hand**-guns. (Corpus: BNC_Written.txt at position 2562383)

127. 192 With a frilled gathered heading, the depth of heading will vary according to the depth of the frill. With other **hand** headings, you need to decide where your curtain hooks should be positioned in order that the heading will cover the track. (Corpus: BNC_Written.txt at position 592562)

128. 151 ...a variety of curtain hooks of varying strengths, made of plastic or metal, which can be sewn on, slotted into pockets on special tapes, or pinned into **hand** headings. (Corpus: BNC_Written.txt at position 571280)

277. 192 Out shopping with his mother one day, a small boy stopped at the bottom of an escalator and refused to budge. "What's wrong?" asked his mother as the boy stood staring at the moving **hand** rail. "Nothing," replied the boy. "I'm just waiting for my chewing gum to come round again." (Corpus: BNC_Written.txt at position 5247959)

- 282.** 182 One of two baby carriages each 3½ inches long.
The garden tools are 5 inches long.
The Atco motor mowing machine with a removable hood is 3¼ inches high.
The heavy **hand** roll-mower is 1¼ inches wide.
The grass is made of green velvet. (Corpus: BNC_Written.txt at position 3033448)
- 283.** 149 mineral salts from the Dead Sea to help eliminate cellulite and pep up your skin; an aromatherapy oil; a **hand** roller which stimulates pressure points on the hands; vitamin tablets, and finally a body scrub sponge to exfoliate, boost circulation and help get rid of toxins. (Corpus: BNC_Written.txt at position 195555)
- 289.** 147 Ten minutes later they stopped the shower. Susan's face was as white as snow and she was shaking with cold. The men checked her body again with a **hand** scanner.
"OK. You're clean now. Put your clothes on. In five minutes we'll come back and take you to the medical centre for more tests." (Corpus: BNC_Written.txt at position 5910136)
- 266.** 160 In his China days Matheson had joined with Jardine and others to organize the Medical Missionary Society in Canton and a hospital in Macao. Also, with a small **hand** press in 1827, he started the Canton Register, China's first English-language newspaper. (Corpus: BNC_Written.txt at position 3497631)
- 268.** 167 He took a pristine white handkerchief out of his pocket and rubbed at the faint **hand**-print Kenneth had left on the glass partition as he said, "These passivation glasses are of much use in the semi-conductor industry, and we have high hopes that with the burgeoning of the..." (Corpus: BNC_Written.txt at position 5794788)
- 269.** 161 Although **hand** printing is sometimes used, all these cards have been produced in three ways. (Corpus: BNC_Written.txt at position 1146739)
- 311.** 184 Machine over tacking, then remove tacking. Press each pleat to the heading behind with a few **hand** stitches and also at the base of the stiffening, to hold in position (fig. 44). (Corpus: BNC_Written.txt at position 636809)
- 312.** 134 Hold the pleats in place by oversewing a few **hand** stitches at the base of each pleat (fig. 34). Also hold the inward creases of the pleat to the back of the heading with a few hand stitches at the top of the pleat. (Corpus: BNC_Written.txt at position 621155)
- 313.** 148 Also hold the inward creases of the pleat to the back of the heading with a few **hand** stitches at the top of the pleat. Insert pin hooks at the appropriate depth into the back of each pleat, taking care not to break the thread, and at each side of the curtain. (Corpus: BNC_Written.txt at position 621288)
- 314.** 161 ...dressmaker's interfacing rather than curtain buckram, as the base of each tube is randomly pinched in (as opposed to pleated in) and held in position with a few **hand** stitches. (Corpus: BNC_Written.txt at position 587309)

→ [contact : material, substance \(5/27\)](#)

- 254.** 193 **Hand** pinch pleat
A hand pinch pleat heading, producing sharp, crisp pleats, is far superior to a taped version. (Corpus: BNC_Written.txt at position 583277)
- 255.** 143 **Hand** pinch pleat heading
Cut a length of 10cm (4in) deep curtain buckram to the finished width of the curtain. Lay the curtain out flat with the lining... (Corpus: BNC_Written.txt at position 619593)
- 256.** 148 A **hand** pinch pleat heading, producing sharp, crisp pleats, is far superior to a taped version. It can be pleated up to the exact length of your particular curtain fixture by adjusting the amount of fabric in each pleat and the spaces between them. (Corpus: BNC_Written.txt at position 583299)

257. 154 INTERLINED CURTAINS With **hand** pinch pleat heading.
These curtains make excellent draught excluders and give extra insulation. (Corpus: BNC_Written.txt at position 616929)

258. 168 These can be short or long and with one of several headings. Floor-length curtains, generally, will add sophistication and, with a crisp, **hand** pinch pleated heading, will suit a formal background. (Corpus: BNC_Written.txt at position 539835)

Hand as adverb (19/57)

→ contact : concrete object (10/19)

58. 190 Vintage port in the Twenties had no labels. White splashes of paint on the bottles indicated which way up they should be binned after delivery from the wine merchant. All the bottles were **hand** blown to scale by the Whitefriars Glass Co. Authentic printed labels were correctly reproduced by photography and the bottles filled with the corresponding vintages. (Corpus: BNC_Written.txt at position 3025578)

84. 163 Photocopied onto a heavy red A4 sheet of paper and folded in both directions. **Hand** coloured with pencils. Name overwritten without guidelines using gouache and a steel pen (Corpus: BNC_Written.txt at position 1148383)

86. 177 3.12 **Hand** Controlled Fire Fighting Equipment
The advantages of providing suitable extinguishers in lifts which are normally for the retrieval of goods has already been... (Corpus: BNC_Written.txt at position 4327166)

248. 176 Dutch tiles were a great favourite of Lutyens, and typical of the era. These are **hand**-painted and fired replicas of existing patterns. (Corpus: BNC_Written.txt at position 3020099)

262. 158 They have also added to their range of superb **hand**-pollinated delphiniums with the inclusion of the lavender-grey "Southern Debutant". (Corpus: BNC_Written.txt at position 94862)

307. 167 Machine, then turn right sides out. Press. Drawstitch the opening. Pin the pleats as previously planned and **hand** stitch securely in position, close to top edge. Stitch braid to the outline of the pleats, covering stitching along top edge. (Corpus: BNC_Written.txt at position 641930)

308. 137 In order that the method of fixing is secured to the pelmet buckram and not only to the lining, **hand** stitch, with a strong needle and thread, along the previous machine stitching on the tape, catching the buckram but not allowing the stitches to show on the right side. (Corpus: BNC_Written.txt at position 631398)

381. 146 Slightly smaller than the real balusters, the Magdalen Birdtable is **hand**-turned on a lathe by the same stonemasons who are rebuilding the bridge parapet. (Corpus: BNC_Written.txt at position 3391859)

424. 138 Dulac painted ochre silk walls with golden clouds and water lilies. The rug is a copy of a Chinese carpet of the Chien Lung period and is **hand** worked with 324 knots to the inch. (Corpus: BNC_Written.txt at position 3011546)

250. 165 They left Margot to look after the children and set off in the car, heading for Gallanach. Kenneth smiled when he saw the **hand**-painted sign at the outskirts of the village that said, "Thank You." (Corpus: BNC_Written.txt at position 5723305)

→ contact : material, substance (8/19)

229. 187 For the inexperienced, it is advisable to pin and tack before permanently **hand** or machine stitching seams. (Corpus: BNC_Written.txt at position 604486)

309. 158 The sides of the lining can be temporarily **hand** stitched to the sides of the curtain, if desired. (Corpus: BNC_Written.txt at position 612858)

310. 164 They are normally pinned to a pelmet board in the same way as a pelmet, through pocketed webbing tape, **hand** stitched to the back. They can be basted more easily directly along the front edge of the board with steel tacks, provided the tacks are covered with braid, but then it can not be removed. (Corpus: BNC_Written.txt at position 638857)

249. 158 Plain fabrics can be decorated, for instance, with appliqué, or rows of contrasting ribbon. Certain fabrics will take a **hand**-painted design, using acrylic fabric paints. (Corpus: BNC_Written.txt at position 650376)

259. 194 For the more experienced needlewoman, **hand**-pleated deep headings can give the great satisfaction of creating beautiful curtains with a professional finish. (Corpus: BNC_Written.txt at position 577257)

260. 149 The stiffness of a **hand** pleated heading will help to keep the heading crisp and firm, giving a truly professional finish. (Corpus: BNC_Written.txt at position 617173)

261. 192 **HAND**-PLEATED HEADINGS

The superior results of these headings more than justify the extra time involved in making them. (Corpus: BNC_Written.txt at position 582706)

423. 135 The copies of eighteenth-century chairs and sofas are not quite 3 inches high. The **hand**-worked upholstery is in imitation of Aubusson tapestry. (Corpus: BNC_Written.txt at position 3007104)

→ [contact : abstract \(1/19\)](#)

184. 166 Concordances produced by computer may differ from traditional **hand**-made concordances in several ways. One is that they will be much more complete: they will contain all the tiny function words which were too frequent, and regarded as too unimportant, to figure in a work like Cruden's Concordance to the Scriptures. (Corpus: BNC_Written.txt at position 4077854)

Hand as noun (11/57)

→ [contact: concrete object \(4/11\)](#)

227. 154 The trees screw into the base, and their trunks and leaves are made of metal, thickened with specially grown dwarf twigs. Every leaf was shaped by **hand**. (Corpus: BNC_Written.txt at position 3033251)

83. Photocopied onto an A4 sheet of paper, afterwards cut to size. This card is a single thickness. White gouache dots added later by **hand**

Colour can be added to a photocopied card in two ways: first, by using coloured paper -- black ink even on cream or grey... (Corpus: BNC_Written.txt at position 1150125)

352. 192 Printed on white card with black ink and then reversed and reprinted. The A4 sheet as it appears after guillotining. Red gouache applied afterwards by **hand**. These personal line drawings of the author's family are now a tradition with this scribe, reflecting his work before he trained as a calligrapher. (Corpus: BNC_Written.txt at position 1153665)

410. 192 Photocopied onto a grey, A4 sheet of laid paper. Watercolour washes applied by **hand**. Where illustration is used with calligraphy, it often works best if it reflects the intrinsic two- dimensional nature of letterforms. (Corpus: BNC_Written.txt at position 1153106)

→ [contact : substance, material \(4/11\)](#)

129. 184 Pin and tack to hold in position. The width of the side hems can be varied to suit the thickness of fabric. Either machine these side hems, or slipstitch by **hand**. (Corpus: BNC_Written.txt at position 609790)

322. 174 Above FIGURE 7 Sue Hufton FSSI, 1990, printed with brown ink on a brown card. Rectangle of cloth tipped on afterwards by **hand**.

Text: "heaven Shall Not Wait", Wild Goose Songs Vol 1.

Reproduced by permission. Copyright permission should be sought if someone else's text is used in a design. (Corpus: BNC_Written.txt at position 1152649)

341. 183 No suitable material came to hand for the box hedges. In the end they were made of specially manufactured rubber and painted by **hand**. (Corpus: BNC_Written.txt at position 3033093)

374. 193 ...arrangement because of the pre-determined size of the pleats, thereby leaving a larger than usual space at one side of your curtain. However, this can be overcome by stitching a small pleat by **hand** to improve the balance. (Corpus: BNC_Written.txt at position 581118)

→ contact : 0 (or undetermined) (2/11)

20. 194 In addition the book features Pearce's personal approach to a variety of media, with the accent very much on preparing colour by **hand** and pointing artists towards the most suitable manufactured materials in each case. (Corpus: BNC_Written.txt at position 1241457)

391. 157 ...black ink even on cream or grey (Figures 3 and 8) looks much less harsh than black on white -- and second, by adding colour later by **hand**. Very little additional colour can have a dramatically brightening effect: the trick seems to be to reduce the black element to a design of sufficient simplicity to integrate small dabs of colour. (Corpus: BNC_Written.txt at position 1150358)

→ contact : abstract (1/11)

75. 143 To make a concordance of a lengthy text by **hand** calls for months or years of tedious labour. With the aid of a computer, concordances of many kinds can be made with comparatively little difficulty. (Corpus: BNC_Written.txt at position 4076565)

2.1.2 a person (23/116)

Hand as noun (23/23)

→ contact : 0 (12/23)

36. 177 His music stems from the same shaping **hand** as that which invented the Voice of God in Britten's second canticle Abraham and Isaac, composed just before Gloriana. (Corpus: BNC_Written.txt at position 1307564)

96. 172 By April 1924 the head of every firm involved had received from Buckingham Palace a signed letter in Queen Mary's own **hand** describing the Dolls' House as "the most perfect present that anyone could receive, and an invitation to visit it at the Palace of Arts. (Corpus: BNC_Written.txt at position 2968665)

107. 187 ...but was able to continue in private practice, agreeing on 23 May 1337 to advise on the works of Lichfield Cathedral. The presbytery there was carried out with details from his **hand**. From 1337 onwards Ramsey was also in charge at St Stephen's chapel, and by this time he was a wealthy man. (Corpus: BNC_Written.txt at position 3418483)

120. 131 No possibilities here to warm to any feeling of myself as "clever"; the aching question instead was why the divine **hand** had seen fit to bestow these talents on me and not on the next child. The Magdalen herself had dried Christ's feet with her long tangled perfumed hair; wavy hair beyond doubt of the ripest corn-yellow. (Corpus: BNC_Written.txt at position 3724796)

187. 175 ...argued, from 1966 to the present time, that in the Pauline corpus only Romans, 1 and 2 Corinthians, and Galatians form a homogeneous group which can be attributed to a single **hand**. Morton's arguments were based on a study of sentence lengths, on the frequencies of common words, and on other grammatical features such as the proportion of different parts of speech. (Corpus: BNC_Written.txt at position 4081121)

364. 160 Archives of the Geological Society of Edinburgh and the Geological Survey, Edinburgh; Kirklees metropolitan council archives; Edward Greenly, A **Hand** Through Time, 1938. (Corpus: BNC_Written.txt at position 3455994)

183. 185 After a while, one of Lewis's arms disengaged, waving behind him. One finger pointed up to the bright flood-light that was showing me all this. His **hand** made a cutting, chopping motion. (Corpus: BNC_Written.txt at position 5629317)

192. 141 Carl looked down. The girl was lying on the floor of the aisle beside him. He thought he saw her **hand** move towards her machine gun, but then one of the soldiers in white ran down the aisle and shot her again through the head. Another soldier pulled her away by her legs and her long hair left blood along the floor. (Corpus: BNC_Written.txt at position 6016560)

193. 145 Helen was still watching the dead body of the man on the tarmac. She thought a **hand** moved, for a moment; but no, he must be dead by now. There was a pool of blood on the tarmac now, around his head. He could not possibly be alive. (Corpus: BNC_Written.txt at position 5991930)

251. 186 I pondered the possibility that the lad possessed some dinosaur-like secondary brain which was controlling the movements of his **hand**. (Corpus: BNC_Written.txt at position 5759033)

400. 189 So when the 9.15 came screaming out of the tunnel, the three children waved...
... And a **hand** waved back! It was holding a newspaper and it belonged to an old gentleman. (Corpus: BNC_Written.txt at position 5361559)

191. 173 I watched Gavin's **hand** move — apparently unconsciously, though of course with Gav that could still mean it was fully willed — to Janice's polyester-and-cotton covered thigh. (Corpus: BNC_Written.txt at position 5758253)

→ [contact : concrete object \(6/23\)](#)

198. 184 "God send you good keeping. "Written this day at Westminster by the **hand** of your loving mother "ELIZABETHWOODVILLE" (Corpus: BNC_Written.txt at position 5204900)

320. 163 Having completed a tour of the museum, Elisabeth and Svend found themselves back in Svend's office, where fresh coffee had been placed by an unseen **hand**. Svend pulled out a chair for his visitor. (Corpus: BNC_Written.txt at position 4854310)

93. 156 ...was a masterpiece of good cooking, baked with lemon and tomato inserted in the cuts on its back, and as tender to eat as the proverbial chicken. His steady **hand** cut us "steaks by the slice with no wastage at all. (Corpus: BNC_Written.txt at position 2853004)

134. 178 One problem relates to a tactical blunder by Swapo. It allowed a splinter party, Swapo-Democrats, to appropriate and register the symbol which Swapo used for nearly 30 years, a **hand** holding a flaming torch. Swapo went into the election with a symbol which was only weeks old: a man with a raised fist. (Corpus: BNC_Written.txt at position 1993727)

135. 153 I thought Dr. Favor would say something to her again, but he didn't. He could have been seven hundred miles away, his **hand** holding the side curtain open a little and staring out at the darkness. (Corpus: BNC_Written.txt at position 6099592)

136. 156 Several colours of dilute designers' gouache fed into an Automatic pen, on 120lb Arches NOT paper. Margaret's **hand**, holding this pen, is shown on the cover of Peter Halliday's book Calligraphy Masterclass (Corpus: BNC_Written.txt at position 1147654)

→ [contact : body-part \(4/23\)](#)

85. 160 As I passed what we then called "The Doll's hospital I felt a very firm **hand** come on to my shoulder. I do not really like being touched by a stranger since I had been mildly attacked as a child, but something told me this was no casual greeting. (Corpus: BNC_Written.txt at position 2782347)

316. 185 She made me coffee, gave me hugs, and at one point I fell asleep, and was at peace for a while, and woke up sprawled on the floor, my head on her lap, one gentle **hand** stroking my head. (Corpus: BNC_Written.txt at position 5705114)

380. 195 (He turns on him suddenly, reached out a **hand**.) Touch. (ROS clasps his hand. GUIL pulls him up to him. More intensely) (Corpus: BNC_Written.txt at position 5453655)

406. 181 "Mmm," Janice nodded. Her right **hand** went up to Gav's short, brownish hair, and started to play with it, twirling it round her fingers. (Corpus: BNC_Written.txt at position 5758535)

→ [contact: abstract \(1/23\)](#)

35. 194 Were Crabbe insincere, we should not return, but disapproval is as genuine in his **hand** as indignation in Carlyle's, and, like Carlyle, he never hesitates to turn his weapon against himself. An unusual atmosphere results: it is, so to speak, sub-Christian: there is an implication throughout of positive ideals... (Corpus: BNC_Written.txt at position 1329153)

2.1.3 Power (biblical context mainly) (10/116)

Hand as a noun (10/10)

→ [contact : person \(5/10\)](#)

199. 194 Gen Aoun controls Lebanon's Christian enclave and opposes the presence of Syrian troops in the country. He rejected the authority of President Muawad, who was elected with Syrian backing. "The **hand** of betrayal and treason has reached the martyr President Rene Muawad, the official Syrian news agency, Sana, said. (Corpus: BNC_Written.txt at position 2125331)

200. 135 We pray for your guidance on leaders, and your **hand** of comfort on the innocent people caught up in conflict. Lord, your will is for truth; we pray for the forces of justice... (Corpus: BNC_Written.txt at position 1042817)

201. 146 We pray for your guidance on leaders, and your **hand** of comfort on the innocent people caught up in conflict. (Corpus: BNC_Written.txt at position 1037949)

211. 134 ...historic speeches (which are not set to music) represent her carefully-chosen communications to them. Death, of course, lays its icy **hand** on kings, as on other men, and Elizabeth's remonstrance against Essex is proclaimed in the thunderous recapitulation of his lute song. The opera was twinned in themes from the start, and it remains so... (Corpus: BNC_Written.txt at position 1310192)

402. 180 We pray for those who mourn, and for those who are sad for any reason. Lord, may each one know the gentle touch of your restoring **hand**. (Corpus: BNC_Written.txt at position 1059944)

→ contact : 0 (3/10)

185. 187 We are very conscious, Lord, of the tensions in your world between the nations and within the nations. So we pray for peace; we pray for peace in the Gulf War, and ask that your guiding **hand** may direct the actions of all those involved. (Corpus: BNC_Written.txt at position 1040242)

197. 182 The Magdalen herself had dried Christ's feet with her long tangled perfumed hair; wavy hair beyond doubt of the ripest corn-yellow. Everywhere the capricious darting **hand** of Grace had lighted on the fallen, the ordinary, and they had been briefly lit up and magnified in that illumination. (Corpus: BNC_Written.txt at position 3725040)

403. 187 We thank you especially for the witness of Archbishop Runcie and pray for him and for Bishop Carey as they transfer responsibility under your guiding **hand**. (Corpus: BNC_Written.txt at position 1038989)

→ contact : abstract (2/10)

215. 183 Lord, your will is that the world's resources should be shared by all men; we pray against greed and selfishness in the use of resources, and especially pray for your guiding **hand** on relief efforts along the Iraqi-Jordanian border. (Corpus: BNC_Written.txt at position 1038334)

216. 183 Lord, your will is that the world's resources should be shared by all men; we pray against greed and selfishness in the use of resources, and especially pray for your guiding **hand** on relief efforts in the famine areas of Africa. (Corpus: BNC_Written.txt at position 1043202)

2.1.4 Focused stage of an act (21/116)

Hand as a phrasal verb (8/21)

→ contact : choses concrètes/objets réels (8/8)

159. ...193 slightest warning at all bombs began to drop and shift whole areas at least fifty yards square. The V2 had arrived. It really was women and children out then. I had to go to the Town Hall, and **hand** in my badges and battle dress, and then report to the station. I was sent to Bedford in Bedfordshire. (Corpus: BNC_Written.txt at position 2829205)

170. 161 He waited while I tore off one of the orange- coloured tickets, then another one. "If any stops are open on the way, show this for meals. Drinks are extra. You **hand** it in when you reach your destination. The other one's for him." I nodded to Russell. "You want to hand it to him?" (Corpus: BNC_Written.txt at position 6083910)

238. 177 ...and Umanskii detects a distinct difference between these gifts and those which yasak-paying tribes gave originally voluntarily, but later on under coercion. Nor did the Teleuts **hand** over hostages to the Russians, despite pressure being placed on them to do so. (Corpus: BNC_Written.txt at position 3281045)

239. 138 Two weeks ago, the island was paralysed by a strike of government workers, who accused Blaize of breaking his promise to **hand** over more than £2 million in back pay. (Corpus: BNC_Written.txt at position 2561772)

241. 153 But the steepest rise in the number of Siberian exiles was caused by the notorious legislation of 1760 which granted serf-owners the right to **hand** over disobedient, idle or refractory peasants to the state authorities for exile to Siberia, in return for a military recruit quittance. (Corpus: BNC_Written.txt at position 3224674)

244. 146 GUIL: Everything is explained in the letter. We count on that.

ROS: Is that it, then?

GUIL: What?

ROS: We take Hamlet to the English king, we **hand** over the letter -- what then? (Corpus: BNC_Written.txt at position 5558607)

245. 154 ...the King gave you the letter, we don't know what's in the letter; we take Hamlet to the English King, it depending on when we get there who he is, and we **hand** over the letter, which may or may not have something in it to keep us going, and if not, we are finished and at a loose end, if they have loose ends. (Corpus: BNC_Written.txt at position 5567635)

246. 155 Her exhausted captain had had to **hand** over the wheel to Arthur and for eight days he was scarcely relieved. The icy seas had swept over her decks, and men had had to work night and day with axes to keep her afloat. (Corpus: BNC_Written.txt at position 2800329)

Hand as a simple verb (5/21)

→ contact : choses concrètes/objets réels (5/5)

33. 174 It is true that headline inflation has reduced since it peaked in 1982 with the infamous "gotcha". MAINTENANCE PAYMENTS: Be there when our enforcement officers finally **hand** Arni Sacknussen the writ for desertion and five years back payments for maintenance. (Corpus: BNC_Written.txt at position 1397855)

132. 145 But that kind of thing is hard to keep up: guilty lest I gave to the good-looking only I decided to **hand** him a quarter whenever I saw him -- what an ugly young man... (Corpus: BNC_Written.txt at position 5874387)

148. 144 Sharp dressmaker's or glass-headed pins are best. Never use rusty pins as they will mark the fabric. Have a selection of hand-sewing needles to **hand**, in assorted sizes (1 coarsest -- 10 finest). (Corpus: BNC_Written.txt at position 576353)

173. 137 You hand it in when you reach your destination. The other one's for him." I nodded to Russell. "You want to **hand** it to him?" The ex-soldier looked at the ticket as he walked over to the bench. (Corpus: BNC_Written.txt at position 6084016)

319. 168 What is puzzling is why the United States should **hand** such a diplomatic prize to China at a time when the original strategic basis of the friendship, mutual hostility to the Soviet Union, seems more tenuous than ever. (Corpus: BNC_Written.txt at position 2408468)

Hand as noun (3/21)

→ contact : concrete object (1/3)

44. 144 At Kunstat we visit a ceramics factory, where you can try your **hand** at the potter's wheel and buy some very reasonably priced pottery from their retail outlet. (Corpus: BNC_Written.txt at position 158388)

→ contact : 0 (2/3)

143. 160 I can still write it fluently. We did transcription, copied out set passages in this arching, long-looped **hand**. I wrote out, over and over, with a calm satisfaction: "I should like to live among the leaves and heather like the birds, to wear a dress of feathers, and to eat berries." (Corpus: BNC_Written.txt at position 3712472)

415. 153 The single most difficult skill for the calligrapher to acquire is consistently good letterform in a rhythmic, written **hand**. (Corpus: BNC_Written.txt at position 1145503)

In idioms: as noun (5/21)

→ contact : 0 (4/5)

147. 187 Richard came forward then to formally ask for her **hand** in a pavan but, observing that his brother was conversing with his elected bride and catching the latter's meaningful glance, he cheerfully turned away and asked his sister Cecily instead. (Corpus: BNC_Written.txt at position 5059099)

366. 189 ...he called on them constantly, smiling all the time, but never saying what he was after; with the inevitable result that the damsel got tired of her tortoise", and gave her **hand** to a brisker suitor. Thus ended the Vicar's sole excursion into the realm of passion. (Corpus: BNC_Written.txt at position 1326228)

386. 187 The 1--0 defeat at home to relegation-threatened Middlesbrough at Portman Road on Tuesday night was the latest setback and Linighan admits: "It was a rotten night for us. I must hold my **hand** up and say that their goal was down to me. (Corpus: BNC_Written.txt at position 328416)

371. 156 Balstrode, the retired sea-captain, says, "Something of the sort befits / Brats conceived outside the sheets". Crabbe asks rhetorically why no-one raised a **hand** to help Grimes's workhouse slaves, but comments that all they ever said on hearing of the children's misery was -- Grimes is at his exercise". (Corpus: BNC_Written.txt at position 1318108)

→ contact : concrete object (1/5)

164. 177 Did you hear the one about the Russian soldiers on parade?
The officer sneezed and six of them yelled out "Here sir!"
WHAT GOES " I'M OUT! THUD!"
A CARD PLAYER THROWING HIS **HAND** IN.
Hear about the Wally who burned his own ear off?
(Corpus: BNC_Written.txt at position 5286319)

2.1.5 As a characteristic of a category (5/116)

Hand as noun, adjectival position (5/5)

→ contact : 0 (5/5)

52. 139 "The plane will be guarded from its arrival in Paris, he said.
"We will reinforce the controls on passengers, **hand** baggage and hold baggage. (Corpus: BNC_Written.txt at position 2705417)

53. 187 The measures will be even tighter than those instituted for all flights from French airports a week ago -- which include the X-raying of all hold baggage, new controls on **hand** baggage, and body searches -- that have added up to an hour to flight checks-ins. (Corpus: BNC_Written.txt at position 2705626)

67. 180 ...or knocking on someone's door and running away -- all rather harmless, but if our parents found out, we would be in for a good hiding, a cut on the backside. Many a time I had the **hand**-brush and so did my brothers and sisters but it never did us any harm.(Corpus: BNC_Written.txt at position 382877)

56. 150 On a floor tiled in mother-of-pearl, the alabaster bath and **hand** basin designed by the architect have silver taps while, inset behind the bath, the water closet is enclosed in a carved chair. (Corpus: BNC_Written.txt at position 3001024)

94. 160 He had wept almost at the calling up of Michael Soames, who he thought might never dance again, but had given us a most glowing description of an Egyptian **hand** dance by Mr Anton Dolin. However no-one had ever heard of dancing in Church, except in Seville in Spain, so we had to stick to choral and solo singing. (Corpus: BNC_Written.txt at position 2786621)

2.2 Metaphors (132/274)

2.2.1 as power (3/132)

In idioms: as noun (2/3)

230. 135 In return the monarch undertook to protect those who had come under his "high **hand**. Ostyaks (Khantys) swore in front of a bearskin on which were laid an axe, a knife and some bread. If they broke the vow a curse would ensue according to which they would be savaged by a bear, split apart by an axe, knifed to death or even choked... (Corpus: BNC_Written.txt at position 3258872)

18. 169 GUIL: ...There's a logic at work -- it's all done for you, don't worry. Enjoy it. Relax. To be taken in **hand** and led, like being a child again, even without the innocence, a child -- It's like being given a prize, an extra slice of childhood when you least expect it, as a prize for being good, or compensation for never having had one... (Corpus: BNC_Written.txt at position 5485772)

Hand as noun (1/3)

265. 161 GUIDING deputies with a firm **hand**, President Gorbachev yesterday got his way at the opening session of Congress, which duly voted against a proposal by the poet Yevgeny Yevtushenko to discuss the Communist Party's monopoly of power.(Corpus: BNC_Written.txt at position 2458552)

2.2.2 The twofold notion of hand (94/132)

In idioms : as noun (62/94)

1. 182 Consequently the bear-feast-- ubiquitous in Siberia -- was on the one **hand** a communal enjoyment of the cooked flesh of the animal, but on the other hand a sacred ritual intended to placate the bear-spirit... (Corpus: BNC_Written.txt at position 3304898)

3. 140 ...defeated candidates plus 9,999 of the votes given to Alphonse who needed only 15,001 to defeat Belinda, his closest competitor. On the other **hand** a large majority of single transferable votes are, it is argued, effective: roughly five-sixths in a five-member constituency. (Corpus: BNC_Written.txt at position 3041020)

4. 135 ...the bear-feast-- ubiquitous in Siberia -- was on the one hand a communal enjoyment of the cooked flesh of the animal, but on the other **hand** a sacred ritual intended to placate the bear-spirit and ensure that, while the dead animal would live again, its spirit would not seek vengeance on those who had killed it. (Corpus: BNC_Written.txt at position 3304978)

10. 160 Umanskii concludes that their subjection to the Russians was nominal. Yet on the other **hand** an agreement had been reached for mutual military aid as early as 1609. There might appear to be elements of a feudal vassal status for the Teleuts here. (Corpus: BNC_Written.txt at position 3281475)

13. 139 ...actor, Mr. Macready, who was assailed after a fine performance of Hamlet at Stamford Theatre, with the dual cry of " Macready, on the one **hand**, and "bull" from a confused section on the other -- in request of the bull song. Macready was incensed by this and demanded to know its meaning. On hearing of the bull-running tradition he was disgusted and replied in best Shakespearean... (Corpus: BNC_Written.txt at position 886108)

19. 159 Again the balance is cleverly held between plain natural speech contours and rhythms on the one **hand**, and more artificial, almost sing-song, figures on the other-- figures designed to tell us something more concentrated about the character. (Corpus: BNC_Written.txt at position 1347238)

28. 169 ...Britten's theatrical inexperience at the time, is his equal assurance in handling two quite different basic types of music-drama: the genre crowd-scene on the one **hand**, and, on the other, the monologue. With the genre scenes, part of the secret lies again in the way natural-sounding dialogue is skilfully caught up into a formal musical structure. (Corpus: BNC_Written.txt at position 1341153)

31. 193 The zoo's always a good place for a few laughs. Most of the animals like a bit of a giggle and the hyenas will laugh at anything. Hamsters, on the other **hand**, are a different kettle of piranhas altogether. A hamster will go completely mental if you start slugging him off. (Corpus: BNC_Written.txt at position 5261017)

34. 172 The inference of user information needs from user information-seeking behaviour has led to much confusion. It may be more useful to try to consider behaviour, on the one **hand**, as a response to factors within the system and, on the other, as a response to factors outside the system -- i.e., from the user's perspective. (Corpus: BNC_Written.txt at position 4552902)

41. 141 ...and some peoples were reduced in numbers almost to vanishing point, while on the other **hand** at least one new ethno-cultural group was formed. (Corpus: BNC_Written.txt at position 3333327)

45. 189 On the one hand, the unique group identity of a relatively marginal population is revitalised from within and the politics of multiculturalism are advanced. "But on the other **hand**, at the same time, the minority is likely to become more integrated into national life, because short of reaching total political independence, a high level of assimilation seems to be a prerequisite... (Corpus: BNC_Written.txt at position 960513)

59. 158 On the other **hand**, bond issues by British companies which, during the 1970s, had dwindled due to high and volatile nominal rates of interest have increased markedly in recent years. (Corpus: BNC_Written.txt at position 1879625)

66. 175 With a couple of exceptions, the separate numbers' are actually inseparable from their context while, on the other **hand**, Britten does use Wagnerian leitmotifs as part of a rather more generalised system of motivic transformations. (Corpus: BNC_Written.txt at position 1333075)

74. 161 In bad cases, however, with large patterns, by following the pattern your curtain could be so off grain as to adversely affect its drape. On the other **hand** by following the grain your pattern could be on a definite slant, which would be very irritating. (Corpus: BNC_Written.txt at position 598263)

76. 146 2. Banding

Banding, on the other **hand**, can be scored easily and accurately. The initially-bewildering array can be categorised quite simply (Fig. 13) although the factors affecting its occurrence remain largely unknown. (Corpus: BNC_Written.txt at position 4681255)

79. 193 Guildford moved two points clear in Conference B with an emphatic, expected victory over Basingstoke and still have three games in hand, but a late slip-up is not inconceivable. On the other **hand**, Chelmsford are looking stronger by the game and the thumping dished out here was the second of its kind inside eight days, following the 26--3 humiliation of Sunderland. (Corpus: BNC_Written.txt at position 254927)

90. 137 On the other **hand**, cracking down on the rebels could widen the fissures within the army and encourage disgruntled officers to plot more coups. (Corpus: BNC_Written.txt at position 2288428)

101. 195 George (1989) has re-examined this approach, pointed out its drawbacks and concluded that the balance of theory and evidence does suggest that there is a need for a mergers policy. On the other **hand**, economists of the Austrian tradition (e.g. Littlechild 1981, 1989) have come closer to the laissez-faire view, partly as a consequence of their different interpretation of profit. (Corpus: BNC_Written.txt at position 3640581)

103. 158 When depends on the Chancellor and the Treasury, who are still scared of fuelling a rise in inflation while hoping, on the other **hand**, for a rise in house prices. (Corpus: BNC_Written.txt at position 1492742)

109. 157 also differentiates browsing habits according to the different disciplines and points to its prominence for scholars in the humanities. Hyman, on the other **hand**, gives a functional definition of browsing: "Browsing is the activity subsumed in the direct shelf approach whereby materials arranged for use in a library are held in the reasonable expectation that desired or valuable items..." (Corpus: BNC_Written.txt at position 4546271)

122. 155 When the blind is drawn up the scallops become even fuller. A festoon blind, on the other **hand**, hangs like a curtain when it is down but it has vertical rows of rings on the back through which cord is threaded. (Corpus: BNC_Written.txt at position 543845)

146. 165 ROS: That it's morning?

GUIL: If it is, and the sun is over there (His right as he faces the audience) for instance, that (Front) would be northerly. On the other **hand**, if it is not morning and the sun is over there (His left)... that... (Lamely) would still be northerly. (Corpus: BNC_Written.txt at position 5501852)

166. 186 A SKIP guard is always ready, and its execution has no effect other than to start the process which it guards. This explains the law (2.5) & formula; A communication guard, on the other **hand**, is executed only when the process at the other end of the given channel is also willing. (Corpus: BNC_Written.txt at position 4400477)

167. 181 As margin round the showers

Of your gym, Norm,

In which so dashing a physique

As yours for several years

Gained muscle every week

With sharper definition.

Death on the other **hand**

Is rigid and,... (Corpus: BNC_Written.txt at position 5901496)

168. 184 ...stemming which can be done almost unconditionally without making an appreciable difference to the meaning of the stemmed words (within the language of subject searches). On the other **hand**, it is fairly obvious that "strong" stemming -- the removal of longer and more "meaningful" suffixes such as " ization" "ism" and ability" often cannot be done without drastically altering the...(Corpus: BNC_Written.txt at position 4587227)

171. 170 On the other **hand**, it is argued in &lcb;10} that, if we look only at parameter values reasonably far from the critical value, it will usually be the case that the cumulative effect of the whole sequence of... (Corpus: BNC_Written.txt at position 4815664)

186. 184 An odd multiple, on the other **hand**, means that the pump is off resonance, lying exactly halfway between two modes: the beat note between the pump and the resonant sidebands, which will be self- excited if the nonlinearity is strong enough, has period $2tR$...(Corpus: BNC_Written.txt at position 4772427)

196. 146 ROS: (Shouts) Beard! What's the matter with you? (Reflectively)
The toenails, on the other **hand**, never grow at all. (Corpus: BNC_Written.txt at position 5459913)

218. 156 ...form it takes depends, on the one hand, on the user's state of knowledge and the ability to identify and define the gap in that knowledge and, on the other **hand**, on the extent to which the user adapts to the bibliographic tools and documents available. (Corpus: BNC_Written.txt at position 4572149)

223. 159 She must not make capital out of her distress, on the one **hand**; on the other the items were quite small and there was no need to humiliate herself. (Corpus: BNC_Written.txt at position 4909158)

225. 161 The form it takes depends, on the one **hand**, on the user's state of knowledge and the ability to identify and define the gap in that knowledge and, on the other hand, on the extent to which the user adapts to the bibliographic tools and documents available. (Corpus: BNC_Written.txt at position 4572025)

253. 137 On the other **hand**, Peter was responsible for the introduction of a punitive practice which was to remain at the centre of the tsarist criminal code and of the Siberian penal system until well into the twentieth century. (Corpus: BNC_Written.txt at position 3218659)

271. 156 On the other **hand** processes with different sets of minimal acceptances are observably different. (Corpus: BNC_Written.txt at position 4451316)

287. 177 Bringing in the superpowers, however, would force an unwilling Washington to confront the problems caused by its continuing non-military support for the contras. On the other **hand**, Sandinista backing for the FMLN rebels would be likely to prove untenable. (Corpus: BNC_Written.txt at position 2435820)

288. 177 Bringing in the superpowers, however, would force an unwilling Washington to confront the problems caused by its continuing non-military support for the contras. On the other **hand**, Sandinista backing for the FMLN rebels would be likely to prove untenable. (Corpus: BNC_Written.txt at position 2450613)

323. 170 Suppose on the other **hand** that as a thoroughly loyal supporter of the Fruity Party I give all of my first three preferences to all of its three candidates -- to Cherry as well as to Apple and Banana. (Corpus: BNC_Written.txt at position 3073365)

325. 172 On the other **hand**, the average value per transaction has risen steeply since the early 1980s... (Corpus: BNC_Written.txt at position 1842957)

326. 182 In the former case, the fact that the linearised flow near $C+$ and C has a complex pair of eigenvalues alters the results considerably. On the one **hand** the behaviour is more complicated very close to the critical parameter value, with infinitely many periodic orbits in existence on both sides of the bifurcation...(Corpus: BNC_Written.txt at position 4815424)

- 327.** 194 Thus,if on the one **hand** the "civilizing role of the Russians in Siberia should not be belittled, neither should too much credence be given to nationalistic claims put forward in Russian accounts of the subject, whether before or after the 1917 Revolution. (Corpus: BNC_Written.txt at position 3325500)
- 328.** 148 On the other **hand**, the "Horse Tungus, of the Mongolian borderland, like the related Oroch and Negidal peoples of the lower Amur, adopted the Mongolian wrap-over coat of deerskin or quilted material. (Corpus: BNC_Written.txt at position 3330572)
- 330.** 162 The inter-governmental conference set up at Strasbourg to look at EMU will consider two main sets of proposals. On the one **hand**, the British Government is championing the idea that currencies and economies should be left to compete against each other within a system which encourages both monetary co- operation and...(Corpus: BNC_Written.txt at position 2416054)
- 331.** 157 On the other **hand**, the choice between $x = 0$ and $\frac{1}{x}$ can be postponed to (at least) the next step: it is only the value communicated down c that is at stake, and it is possible to construct a single expression... (Corpus: BNC_Written.txt at position 4441047)
- 332.** 196 Each seat constitutes a pre-determined share of the total number: 25%, for instance, in a four- member constituency. On the other **hand** the distribution of first- preference votes will be unpredictable and uneven. Among ten candidates it might range from 21% of the total through 18, 16, 13, 11, 9, 5, 4 and 2 down to 1%. (Corpus: BNC_Written.txt at position 3124241)
- 334.** 176 On the other **hand**, the flight in some literature departments from traditional methods of study, with their emphasis on the detailed analysis of texts, towards theory-laden forms of criticism... (Corpus: BNC_Written.txt at position 4097664)
- 337.** 168 It is not clear from the evidence how catalogue usage could be increased. On the one **hand**, the limitations of the catalogue had been recognized. The major investigations of the early 1970s were all carried out with the hope of providing some suggestions for improvements to be applied in automated catalogues. (Corpus: BNC_Written.txt at position 4533308)
- 338.** 155 ...an extraordinary person, she's a dual personality: on the one hand the public image, crisp, incisive, brusque, dismissive and intensely regal; on the other **hand**, the private nature, vulnerable, lyrical... (Corpus: BNC_Written.txt at position 1382404)
- 339.** 189 But Gloriana herself is an extraordinary person, she's a dual personality: on the one **hand** the public image, crisp, incisive, brusque, dismissive and intensely regal; on the other hand, the private nature, vulnerable, lyrical... (Corpus: BNC_Written.txt at position 1382308)
- 340.** 154 Another effect of finite is to raise the degeneracy by which all symmetrically placed pairs of sideband modes reach threshold simultaneously. On the one **hand**, the raising of the $h = + 1$ degeneracy permits self-pulsing at period tR , as described by Bonifacio and Lugiato & Lugiato, whereas the Ikeda degeneracy splits to yield pulsing at $2tR/3$, $2tR/5$, etc. (Corpus: BNC_Written.txt at position 4775890)
- 342.** 150 Editor Stephen Harold Riggins points out that minority media entail unexpected paradoxes: "Minority empowerment is in itself paradoxical. On the one **hand**, the unique group identity of a relatively marginal population is revitalised from within and the politics of multiculturalism are advanced. (Corpus: BNC_Written.txt at position 960344)
- 347.** 186 ...availability of systems such as SPSS meant that there was a temptation for humanists to fit their special data to the software, rather than to design software for the data, on the other **hand** there began to be developed systems for source-oriented data entry, of which the most famous was CLIO. (Corpus: BNC_Written.txt at position 4069054)
- 348.** 165 The Treasury believes its plan would lead to a convergence of inflation at a lower rate and evolution towards fixed exchange rates. On the other **hand**, there is the blueprint for EMU laid down in stages two and three of the Delors report, a far more ambitious scheme which would mean a European central bank, a single currency, a framework for budgetary policy... (Corpus: BNC_Written.txt at position 2416420)

349. 173 It appears that changes in the card catalogues were considered to be too difficult and costly to implement. On the other **hand**, there was also some complacency in accepting the status quo and in the rationalization that the performance of the traditional catalogue was acceptable after all. (Corpus: BNC_Written.txt at position 4533659)

353. 180 Thus, they claim a climate of uncertainty is created which militates against the decision-taking ability of firms. On the other **hand** they are not prepared to countenance the complete free rein of market forces, since the dangers of monopoly are well known. (Corpus: BNC_Written.txt at position 3638615)

354. 154 "These systems work well if they know the parameters of Soviet radar very well. On the other **hand** they can fail catastrophically. Simpler systems don't attempt as much, but are not going to fail so badly, said an analyst with the Centre for Defence Information, Mr Steve Kosiak. (Corpus: BNC_Written.txt at position 1969727)

355. 165 On the other **hand** they could see little merit in a policy based upon a rules approach, since rules are inevitably arbitrary and lacking in any underlying economic logic. (Corpus: BNC_Written.txt at position 3640106)

357. 165 Fretter and Graham (1962), on the other **hand**, thought the sole function of the hypobranchial gland was to produce a glairy slime to cement particles together as they are swept out of the mantle cavity... (Corpus: BNC_Written.txt at position 4628242)

369. 151 It might be thought that such policies spring from a desire, on the one **hand**, to ensure the free flowering of individual enterprise, and on the other, to guard against the tyrannies of "big business". (Corpus: BNC_Written.txt at position 3614548)

390. 172 While a wealth tax would be difficult and cumbersome to administer, it could perhaps form a part of a total or partial replacement to existing income taxes. On the other **hand**, VAT has clearly been an economic success. It is easy to understand, cheap and simple to administer and can be varied in rate on different commodities to support the less well-off, by exempting food, for example. (Corpus: BNC_Written.txt at position 1774986)

396. 169 It is important to note that none of the clauses we have so far dealt with have introduced a PAR construct (SEQ, on the other **hand**, was introduced by ALT and CAR). Thus the procedure we have already set up will work when given a program not containing any PAR constructs. (Corpus: BNC_Written.txt at position 4425527)

408. 157 Caraher's non-transferable votes had been transferable first to Hendron and then to Magee the latter would have been elected in place of Burns. On the other **hand** when Jordan's (VUPP) votes were transferred in Stage IX 117 were non-transferable, and equally, if these had been transferable to Burns, the latter's position compared with Magee would have been unaltered. (Corpus: BNC_Written.txt at position 3597995)

409. 137 Thus SEQ distributes over both IF and ALT in its left argument. (4.3) &formula;(4.4) &formula; On the other **hand**, when P does terminate immediately, SEQ (P, Q) behaves like Q modified to take account of any assignment by P. (Corpus: BNC_Written.txt at position 4403901)

422. 161 On the other **hand**, with the increasing recognition that the study of homoclinic and heteroclinic bifurcations is central to the understanding of chaotic behaviour, the Lorenz equations are again generating a lot of... (Corpus: BNC_Written.txt at position 4793278)

In idioms as adjective (32/94)

54. 178 The sound fades to nothing. The lights come up. The middle barrel (ROS's and GUIL's) is missing. The lid of the right-**hand** barrel is raised cautiously, the heads of ROS and GUIL appear. The lid of the other barrel (HAMLET's) is raised. The head of the PLAYER appears. All catch sight of each other and slam down lids. Pause. (Corpus: BNC_Written.txt at position 5576123)

55. 157 He slams down the lid. The music is softer. He goes back towards GUIL. But a drum starts, muffled. He freezes. He turns. Considers the left-**hand** barrel. The drumming goes on within, in time to the flute. He walks back to

GUIL. He opens his mouth to speak. Doesn't make it. A lute is heard. He spins round at the third barrel. More instruments join in. (Corpus: BNC_Written.txt at position 5569903)

61. 156 The right-hand branch of the unstable manifold of the origin spirals into C and the left-**hand** branch into C. (2) At $r = 13.926$ there is a homoclinic orbit like that shown in Fig. 6.1a and for $r < 13.926$ the right-hand branch of the unstable manifold of the origin spirals into C and vice versa. (Corpus: BNC_Written.txt at position 4816574)

62. 155 (2) At $r = 13.926$ there is a homoclinic orbit like that shown in Fig. 6.1a and for $r < 13.926$ the right-**hand** branch of the unstable manifold of the origin spirals into C and vice versa. (Corpus: BNC_Written.txt at position 4816703)

63. 138 (1) For $1 < r < 13.926$, all numerically computed trajectories spiral into the stable stationary points C+. The right-**hand** branch of the unstable manifold of the origin spirals into C and the left-hand branch into C. (Corpus: BNC_Written.txt at position 4816494)

64. 159 AD(which lies on the stable manifold of the origin) a trajectory starts, the closer to one of the points R or L it will return; R is the point where the right-**hand** branch of the unstable manifold of the origin first strikes the top face of B, and L is the equivalent point for the left- hand branch. (Corpus: BNC_Written.txt at position 4805080)

65. 157 ...the point where the right-hand branch of the unstable manifold of the origin first strikes the top face of B, and L is the equivalent point for the left-**hand** branch. (Corpus: BNC_Written.txt at position 4805210)

88. 145 The technique is easy, as you can see in the bottom right-**hand** corner of the picture. Simply choose scraps of material, in this case crumpled greaseproof paper and a bird's feather, and stick them to a piece of stout hardboard using PVA glue, as you would in collage. (Corpus: BNC_Written.txt at position 1143634)

89. 160 The marble stairs to the entrance hall are just too perfect to ignore, with only a couple of people chatting on the right halfway down. I take the left **hand** course and soar down and round the gentle curve in nothing short of majestic style, allowing myself the luxury of a smile and a brief wave to the startled pair as I rattle by. (Corpus: BNC_Written.txt at position 1082057)

91. 178 The breakfast set in the nursery lobby left-**hand** cupboard was donated by Miss Henrietta Wedgwood. The provisions show familiar names, with biscuits from Huntley & Palmer and McVitie & Price and pots of Tiptree jams. (Corpus: BNC_Written.txt at position 3017175)

92. 190 Place any half or part widths to the other edges of the curtain, when making a pair so that you have a left and a right **hand** curtain. (Corpus: BNC_Written.txt at position 609514)

97. 159 The fully strung, Broadwood cottage piano has a book of nursery rhymes on it. By the right-**hand** door is a very early wireless set. The toy cupboards are filled with soft animals, books and amusements, and animals walk two by two into Noah's Ark. (Corpus: BNC_Written.txt at position 3016231)

98. 169 The Daimler limousine motor car with coachwork by Barker & Co. Ltd.
The Daimler station bus made by the Twining Model Co. Ltd.
The King's cypher on the left-**hand** door of the Vauxhall.
The royal coat of arms on the Daimler station bus. (Corpus: BNC_Written.txt at position 3029300)

121. 188 Reached through the right-**hand** hall lobby, the library runs the full length of the ground floor on the west front. (Corpus: BNC_Written.txt at position 2979647)

178. 181 >From the upper hall, the King's suite of wardrobe, bedroom and bathroom is reached through the right-**hand** lobby and faces west above the library. (Corpus: BNC_Written.txt at position 2995399)

179. 134 The glazed corner cupboards in the left-**hand** lobby hold a pale blue Wedgwood breakfast service, and teatime jams and biscuits. (Corpus: BNC_Written.txt at position 3016521)

- 180.** 145 The passenger lift, first entered from the right-**hand** lobby in the ground floor hall, serves the three main floors, and is controlled by a fully automatic set of push buttons at each floor... (Corpus: BNC_Written.txt at position 3020880)
- 181.** 162 Passing through the right-**hand** lobby, glazed doors shut off the passenger lift which serves three floors and a well-equipped games cupboard. (Corpus: BNC_Written.txt at position 2978585)
- 226.** 157 In the normal form we are forced to accept only one of these representations; we choose the left **hand** one by insisting that pairs of expressions &formula; output on the same channel or assigned to the same variable be ordered. (Corpus: BNC_Written.txt at position 4443762)
- 252.** 167 "The Children of Rumour with her Hundred Tongues, by Charles Sims, on the ceiling. The dragon that creeps around the bottom left-**hand** panel warns agile tongues against unguarded gossip. (Corpus: BNC_Written.txt at position 3006469)
- 270.** 140 Thus the following two processes with the same communication options (and subsequent behaviours) are equivalent: (2.13)&formula; The left **hand** process can SKIP to two options, one of which is a subset of the other. (Corpus: BNC_Written.txt at position 4461439)
- 272.** 178 Suppose the value space is the integers, and consider the following pair of programs. &formula; These are equivalent, but the rule does not prove this because the left **hand** program is finite but is not weaker than any finite syntactic approximation to the right hand program. (Corpus: BNC_Written.txt at position 4467115)
- 273.** 144 ...but the rule does not prove this because the left hand program is finite but is not weaker than any finite syntactic approximation to the right **hand** program. (Corpus: BNC_Written.txt at position 4467211)
- 275.** 159 For instance, if we want a trajectory that goes &formula; then we start in region 1; to get to region 3 we must be in the right-**hand** "third" of region 1; if we are going to go on from region 3 to region 4, we must be in the right-hand "third" of that "third"... (Corpus: BNC_Written.txt at position 4806589)
- 276.** 149 if we are going to go on from region 3 to region 4, we must be in the right-**hand** "third" of that "third"; and, to go on to region 2, in the left "third" of that "third", etc. (Corpus: BNC_Written.txt at position 4806704)
- 300.** 147 The right hand side may be transformed to &formula; by repeated use of &formula; and &formula;. It is then equivalent to the left **hand** side by &formula;. (Corpus: BNC_Written.txt at position 4439054)
- 301.** 140 The fact that the process on the left **hand** side has a communication on the same channel as &formula; within the inner ALT ensures that both processes have the same minimal acceptances. (Corpus: BNC_Written.txt at position 4460580)
- 302.** 156 To derive this law we first establish the following law as a lemma: &formula; The right **hand** side may be transformed to &formula; by repeated use of &formula; and &formula;. It is then equivalent to the left hand side by &formula;. (Corpus: BNC_Written.txt at position 4438932)
- 303.** 184 Note that an extra variable is introduced as a flag. (W6) WHILE b &formula; If x is not free in the left **hand** side. (Corpus: BNC_Written.txt at position 4476980)
- 304.** 195 One does not need to draw exaggerated conclusions from the differences between the left and right **hand** sides of the brain in order to accept that humanists and scientists may be different kinds of people. (Corpus: BNC_Written.txt at position 4093455)
- 305.** 158 Observe that the only places y can appear in P' are on the left **hand** sides of the final multiple assignments, because the transformation from &formula; to P' replaces all others by z. (Corpus: BNC_Written.txt at position 4424155)
- 321.** 161 Remember to cut a left- and a right-**hand** tail. Mark the positions of the pleats with basting stitches. (Corpus: BNC_Written.txt at position 640890)

2.2.3 The “haptic” metaphor (35/132)

In idioms: as noun (33/35)

– “have a game in hand” (sport) = rester un match à jouer (6/33)

2. 191 Borough on Saturday and let Chesham go nine clear at the top. Wivenhoe have not won for eight games -- included in that run is a 3--0 defeat at St. Albans. With sides below having games in **hand**, a first point since early February would be most handy. (Corpus: BNC_Written.txt at position 432207)

68. 192 Guildford moved two points clear in Conference B with an emphatic, expected victory over Basingstoke and still have three games in **hand**, but a late slip-up is not inconceivable. (Corpus: BNC_Written.txt at position 254864)

87. 153 Four games

Wisbech are now 12 points ahead of second-placed Wroxham, who beat Felixstowe Town 5--0 and have four games in **hand**. Cornard United's 3--0 win over Norwich United moves them up to third position. (Corpus: BNC_Written.txt at position 377936)

145. 153 Victory will lift Norwich to within four points of leaders Aston Villa with a game in **hand**. "I've never heard of an easy game against Arsenal and all matches at this stage are tough ones," said Canaries' manager Mike Walker. (Corpus: BNC_Written.txt at position 260769)

188. 188 ...overhead kick from Duncan Shearer clinching a two-nil victory over Dundee United at Pittodrie, which took the Dons to joint top spot in the Premier table, although Hibs now have a game in **hand**. Motherwell are third, a point off the leaders with Rangers and Kilmarnock together on fourteen points. (Corpus: BNC_Written.txt at position 804015)

189. 188 ...overhead kick from Duncan Shearer clinching a two-nil victory over Dundee United at Pittodrie, which took the Dons to joint top spot in the Premier table, although Hibs now have a game in **hand**. Motherwell are third, a point off the leaders with Rangers and Kilmarnock together on fourteen points. (Corpus: BNC_Written.txt at position 808158)

– “go hand in hand” = être indissociable, aller de pair (6/33)

29. 136 Since these two tend to go hand in **hand**, anyone whose home is worth less than the mortgage on it, would welcome a little inflation. (Corpus: BNC_Written.txt at position 1492814)

71. 140 There is, of course, nothing novel in the idea that commercial and politic power go hand in **hand**, but the sheer volume and importance of fur as the preponderating commodity on the mediaeval international market suggests that a monopoly in its procurement, sale and supply was, if not exactly a sine qua non... (Corpus: BNC_Written.txt at position 3213420)

153. 156 ...provided Mozart with a vehicle for his overwhelming genius, not least in those two miraculous finales, to Acts Two and Four, where formality of design goes **hand** in hand with the dramatic unfolding of the story, inspiring the composer to crate some of his most complex structures. (Corpus: BNC_Written.txt at position 1295682)

154. 192 When depends on the Chancellor and the Treasury, who are still scared of fuelling a rise in inflation while hoping, on the other hand, for a rise in house prices. Since these two tend to go **hand** in hand, anyone whose home is worth less than the mortgage on it, would welcome a little inflation. (Corpus: BNC_Written.txt at position 1492806)

155. 194 There is, of course, nothing novel in the idea that commercial and political power go **hand** in hand, but the sheer volume and importance of fur as the preponderating commodity on the mediaeval international market suggests that a monopoly in its procurement, sale and supply was, if not exactly a sine qua non, then at the least a... (Corpus: BNC_Written.txt at position 3213412)

421. 164 ...provided Mozart with a vehicle for his overwhelming genius, not least in those two miraculous finales, to Acts Two and Four, where formality of design goes hand in **hand** with the dramatic unfolding of the story, inspiring the composer to create some of his most complex structures. (Corpus: BNC_Written.txt at position 1295690)

- “a free hand” = independence (2/33)

207. 143 The announcement appeared a clear signal that Moscow was not prepared to extend to its 15 republics the free **hand** on domestic issues enjoyed by its Eastern European allies. (Corpus: BNC_Written.txt at position 2048909)

208. 143 The announcement appeared a clear signal that Moscow was not prepared to extend to its 15 republics the free **hand** on domestic issues enjoyed by its Eastern European allies. (Corpus: BNC_Written.txt at position 2045783)

- “hand in glove (with somebody)” = collaborer, travailler en étroite collaboration, être de mèche avec quelqu’un (1/33)

151. 172 The Mayor and his friends were themselves the criminals, **hand** in glove with the smugglers whose leader Jake was clearly an old ally. The whole elaborate farce had been staged so that it would seem that the wanted miscreants had been arrested, whereas in fact they were still free. (Corpus: BNC_Written.txt at position 5005209)

- “come to hand” = être dévoilé/ découvert, se révéler (3/33)

104. 147 Beds planted with summer filling of tiger lilies, carnations, sweet peas, poppies, marigolds, gentians and fuchsias. No suitable material came to **hand** for the box hedges. In the end they were made of specially manufactured rubber and painted by hand. (Corpus: BNC_Written.txt at position 3032992)

356. 193 Jumping was again the problem when he ran an appalling race at Ascot subsequently, and he simply cannot be relied upon to reproduce his Boxing Day effort. Beebob has been gradually coming to **hand** this season, and can strike winning form in the Guildhall Handicap Hurdle. (Corpus: BNC_Written.txt at position 238455)

425. 193 To transfer the first 5,626 papers that came to **hand** would mean ignoring the 8,907 other papers on which Paisley was placed first, and the system reasonably requires that the second preferences expressed on those papers should also be taken into account. (Corpus: BNC_Written.txt at position 3058336)

- “be in someone’s hand” = dépendre de, être entre les mains de quelqu’un (1/33)

11. 158 But de fact dat dem sey dat mek yu know sey dem get trick

So long as yu is living an yu want eat food

Enter de arena yu nar intrude

Our destiny is in our **hand** an we mus make a move Black people situation mus improve (Corpus: BNC_Written.txt at position 5346257)

- “have/hold somebody in the palm of one’s hand” = faire de quelqu’un ce que l’on veut, tenir quelqu’un dans le creux de sa main (1/33)

281. 191 It had long been believed that he who held the Tower, held London in the palm of his **hand**. (Corpus: BNC_Written.txt at position 5098874)

- “get out of hand” = échapper à tout contrôle (1/33)

362. 188 The implications for welfare are immense. The increase in the dependency ratio has created a demographic time bomb, with the dependency ratio getting out of **hand** through the difficulty of a smaller tax base supporting a larger welfare burden. (Corpus: BNC_Written.txt at position 3766495)

- “(be) in hand to...” = (être) en place pour... (2/33)

368. 145 ...and in any case they were spared the necessity of any expenditure since the Empress Elizabeth seized their assets in 1747, just as plans were in **hand** to construct the new line. The eastern terminus was Kuznetsk. (Corpus: BNC_Written.txt at position 3277202)

370. 190 Following a large congress of agricultural co-operatives last weekend, preparation is in **hand** to form a new Peasants' Party. And the Greens have also set themselves up. (Corpus: BNC_Written.txt at position 2422154)

- “in hand” = en question (2/33)

290. 180 To observe searching behaviour solely at the catalogue may provide a distorted picture of the task in **hand**. Searching behaviour at the shelves may be influenced by the use or non-use of the catalogue. (Corpus: BNC_Written.txt at position 4542047)

389. 187 There are, in fact, two tasks in **hand**: using the computerized system and the information-seeking task itself. (Corpus: BNC_Written.txt at position 4565855)

- “on hand” = sur place, disponible (5/33)

367. 182 Three minutes after the interval the Kent side found the target when a lob from Hunt caught Cheesewright off his line and Leslie was on **hand** to apply the final touch. In injury time Erith made absolutely certain of victory when Battram turned the ball in from close range as the Braintree defence was caught out. (Corpus: BNC_Written.txt at position 267656)

372. 156 There were four conductors in charge of this group with a different conductor planning, organising and leading each session. There were several students on **hand** to help with moving of the furniture etc. (Corpus: BNC_Written.txt at position 3701085)

375. 149 Another advantage of such places is that they often have someone on **hand** to keep an eye on the exhibitions. Perhaps you can strike a deal with an estate agent for temporary use of an empty shop space, or find a suitable display area in an hotel, a restaurant or a theatre. (Corpus: BNC_Written.txt at position 1227384)

377. 158 The first goal came from Tim Cliss in the 39th minute. Peter Munn's diving header was parried and Cliss was on **hand** to net the rebound. (Corpus: BNC_Written.txt at position 378603)

407. 194 Friday prayers in the mosques of Jerusalem's Old City passed without incident, although large numbers of troops and paramilitary border police were on **hand**. West Bankers and Gazans were unable to enter the city. (Corpus: BNC_Written.txt at position 2325972)

- “at hand” = proche, à portée de (la) main (3/33)

106. 195 A final consideration when deciding upon the location of the pool is the proximity of an electrical supply, for, if a fountain or waterfall is contemplated, the supply should be fairly close at **hand**. (Corpus: BNC_Written.txt at position 673037)

365. 188 "Forgotten?" asked Joan, her tinkling laughter deepening the frown on the other girl's face. "You are so droll, Anne. Besides, what if you did forget -- you would have someone at **hand** to remind you!" (Corpus: BNC_Written.txt at position 5032781)

414. 186 The queen-dowager had her own reasons for wishing to keep her daughter-in-law close at **hand** -- whilst accepting that her remaining in sanctuary in the circumstances was out of the question. (Corpus: BNC_Written.txt at position 5154863)

Hand as noun (2/35)

- “Collaboration is physical bond” (2/2)

203. 192 Pastor Istvan Szalatnay, a member of the Hungarian Reform Church General Synod in Budapest, responsible for links with the Church's communities outside Hungary, describes Bishop Papp as "the **hand** of the Ceausescu regime and the secret police. (Corpus: BNC_Written.txt at position 2575214)

418. 161 ...offices and a radio station in Nicaragua, the Sandinistas may also point to Mr Cristiani that a summit meeting which supported negotiations would strengthen his **hand** with his own, powerful army commanders. It is a poker game, one senior western diplomat commented. (Corpus: BNC_Written.txt at position 2347789)

2.3 Interaction between metonymy and metaphor (26/274)

2.3.1 Metaphor from metonymy (21/26)

In idioms: as noun (9/21)

- “overplay one’s hand” = act more confidently than they should because they believe that they are in a stronger position than they actually are (1/9)

95. 190 "That was his biggest blunder, Mr Goldman said. "He badly overplayed his **hand**. Department of Justice officials made it clear that they still see the pursuit of Gen Noriega as a criminal case. (Corpus: BNC_Written.txt at position 2642703)

- “nap’s hand at” (1/9)

43. 161 Braintree 5 Andover 0

BRAINTREE provided five more good reasons to justify their claim of being the most attack- minded team in the whole league. Another nap **hand** at the expense of Andover took Iron's league tally for the season to 82, a figure that cannot be bettered in any of the three divisions of the Beazer League. (Corpus: BNC_Written.txt at position 356340)

- “go cap in hand to somebody” = aller quémander quelque chose auprès de quelqu’un (1/9)

378. 142 It was 50 years from the first signs of the rundown of the British Empire to our going cap-in- **hand** to the International Monetary Fund for financial support. If we do not invest our oil reserves wisely, for the future, we may not get off so lightly next time. (Corpus: BNC_Written.txt at position 1815876)

- “hand over fist” = en grande quantité et à une vitesse phénoménale (1/9)

237. 189 Profits at Unilever are forecast to rise from £575m to around £595m for the third quarter.

Sotheby's plunge TOP people's auction house, Sotheby's is losing money **hand** over fist. (Corpus: BNC_Written.txt at position 1404523)

- “out of hand” = d’emblée (2/9)

73. 136 The proposal would have restricted nuclear weapons at sea to strategic missile submarines. It was rejected out of **hand** by President Bush, who also refused to include the US Navy in conventional arms control agreements. (Corpus: BNC_Written.txt at position 2191175)

411. 161 If these conditions prevailed in a public company, the shareholders would sack the board of directors out of **hand**, while in a private company, bankruptcy would soon occur. (Corpus: BNC_Written.txt at position 1769287)

- helping hand = subvention,aide (1/9)

379. 136 BRITISH companies seeking new markets get a helping **hand** today for any projects they fancy setting up in Russia. (Corpus: BNC_Written.txt at position 1459957)

- “first/second...-hand”: de première/seconde... main (1/9)

A) = qui vient de soi-même, de sa propre expérience, direct (“first hand”)/ qui vient d’une tierce personne, indirect (“second/third... hand”) (1/9)

202. 172 They might well have had experience at second **hand** of Russian trade goods, and thus have resolved to pay tribute to obtain these benefits. And on occasion some groups would choose to submit themselves to the Russians as the lesser of two evils...(Corpus: BNC_Written.txt at position 3256840)

As nouns (in compound)

- hand-out = subvention,aide (1/9)

236. 178 ...success and it applies perfectly to the Sainsbury family, their 100,000 employees and 60,000 shareholders. Since 1980, the UK staff have shared a massive £250m in profit sharing **hand**-outs and this year the figure should be around £50m.(Corpus: BNC_Written.txt at position 1415633)

In idioms : as adjective (10/21)

- “first/second...-hand”: de première/seconde... main (10/10)

A) = qui vient de soi-même, de sa propre expérience, direct (“first hand”)/ qui vient d’une tierce personne, indirect (“second/third... hand”) (5/10)

5. 186 An Amnesty International report, published in February, documented torture of Tibetan men as well as women. More first-**hand** accounts which have reached the Tibet Information Network in London have not been translated for lack of funds. (Corpus: BNC_Written.txt at position 2012910)

102. 162 The family was far from being the poorest of the peasants, but Nasser nonetheless had first-**hand** experience of the poverty-stricken conditions of the rural Egyptians, crammed in along the banks of the Nile on which the whole country depended. (Corpus: BNC_Written.txt at position 3862121)

176. 139 ...to the knowledge of the subject, the nurse will gain the opportunity to meet others who are currently practising and therefore have first-**hand** knowledge.(Corpus: BNC_Written.txt at position 1574383)

279. 139 ...but now the important thing was to persuade Joan to join in the festivities and bring her a first-**hand** report. (Corpus: BNC_Written.txt at position 5052306)

280. 187 First-**hand** reporting is a critical duty. It was not just economic weakness that led to the collapse of communism in Eastern Europe. It was also the availability of free information on radio and television, in particular. (Corpus: BNC_Written.txt at position 1254156)

B) = neuf(“first-hand”)/ d’occasion, qui a déjà servi (“second/third... hand”) (5/10)

60. 149 It was included in a catalogue of second-**hand** books sold after 1741 by the publisher Edmund Curll [q.v.], where it was described as written by &bquo;Mrs. Drake, probably a sister of Dr. James Drake, who attended to the publication of the pamphlet". (Corpus: BNC_Written.txt at position 3560463)

77. 186 A purchase tax of £500.00 shall apply to all second-**hand** caravans sales. (Corpus: BNC_Written.txt at position 1389940)

82. 154 But no one gets up after death -- there is no applause -- there is only silence and some second-**hand** clothes, and that's-- death -- (And he pushes the blade in up to the hilt. The PLAYER stands with huge, terrible eyes, clutches at the wound as the blade withdraws: he makes small weeping sounds and falls to his knees,...(Corpus: BNC_Written.txt at position 5582065)

108. 182 Their clothes were dirty and their hair unwashed. After Forest had taken over, all their fine apparel had been removed and replaced with ill- fitting second-**hand** garments.They had no change of clothing and those they wore were never washed. (Corpus: BNC_Written.txt at position 5212290)

112. 130 Meanwhile, East Germany banned the export of antiques and second-**hand** goods, in an attempt to counter rising currency speculation. (Corpus: BNC_Written.txt at position 2098760)

In idioms: as noun, in an adverbial position (1/21)

- “first/second...-hand”: de première/seconde... main (1/1)

A) = qui vient de soi-même, de sa propre expérience, direct (“first hand”)/ qui vient d’une tierce personne, indirect (“second/third... hand”) (1/1)

335. 170 Clearly the ward sister will have an in-depth knowledge of the workload and fluctuations. She will be able to predict first-**hand** the impact of operating lists and other ward events. However, she will also have to deal with pressures from her own colleagues who are seeking special consideration for personal reasons. (Corpus: BNC_Written.txt at position 1605442)

In idioms: as verb (1/21)

- “hand something over to somebody” = transmettre, céder (pouvoir, responsabilité) à quelqu’un (1/1)

247. 157 HMS Reading's senior officer, now more than middle- aged, had been put out of action by the rigours of the journey from Liverpool to America, and had had to **hand** over to Arthur when about two days out of St John's heading for Iceland. Sub Lieutenant Saunders had instructions to bring HMS Reading into Chatham... (Corpus: BNC_Written.txt at position 2808028)

2.3.2 Metaphor within metonymy (1/26)

In idioms: as noun (1/1)

- “old hand”= expert (1/1)

194. 178 As an " old China **hand**, Mr Bush apparently prides himself on his personal understanding in dealing with the Chinese; and as a former CIA director, he is not averse to secrecy. (Corpus: BNC_Written.txt at position 2513886)
(→ old China hand = expression; hand stands for "expert")

2.3.3 Demetonymy (4/26)

- “keep one’s hand in” = garder la main(faire de temps en temps quelque chose qu’on avait l’habitude de faire pour ne pas perdre la main)

160. 146 He paused, not wishing to repeat his mother's words. John Mowbray had a **hand** in that lass's making, I'll be bound, she had said. The spit of the lady Anne, she is ! (Corpus: BNC_Written.txt at position 5069295)

162. 135 ...been a broad comparison of two fairly "complete" catalogue systems which are also internally quite similar (the present writer had a **hand** in the design of both of them) with the same users in the same library. There follows a taste of the results. (Corpus: BNC_Written.txt at position 4606740)

149. 163 "What about Black Will?"

"Waiting down below for us, I shouldn't wonder -- wanting us to get a move on so's 'e can keep 'is **hand** in at 'is old trade! Funny is old Will -- know what I mean?"(Corpus: BNC_Written.txt at position 5233824)

150. 162 This was Miss Bothway's first winner between the flags for two years. The former area champion was travelling abroad in 1992, but kept her **hand** in by riding a winner on the flat in the United States during August for Mr. Sheppard 's brother, Jonathan.(Corpus: BNC_Written.txt at position 391277)

APPENDIX 2: FINGER

BNC (written) (1,007,000)

Literal sense: 62/82 = 76 %

Conceptual sense: 20/82 = 24%

(▣) = types of objects “touched with the finger(s)” or types of objects in contact with fingers

1 Literal sense (62/82)

Finger as noun (compound included)(60/62)

Finger/ + -S (60/60)

→ contact: body part (23/60)

2. 153 GUIL: When the wind is southerly.

ROS: And the weather's clear.

GUIL: And when it isn't he can't.

ROS: He's at the mercy of the elements. (Licks his **finger** and holds it up -- facing audience.) Is that southerly? (They stare at audience.) (Corpus: BNC_Written.txt at position 5501109)

3. 150 I was looking down at my plate, licking my **finger** and picking off the last few crumbs, transferring them to my mouth. (Corpus: BNC_Written.txt at position 5771296)

5. 140 He licked his lips, rubbed his right index **finger** and thumb together for a couple of seconds and held Prentice's foot steady with his left hand. (Corpus: BNC_Written.txt at position 5635673)

12. 183 Try this Belgian game. Stand in a line, one behind the other, with the Sixer at the back. The Sixer decides on a three letter word. She "writes" the first letter with her **finger** on the back of the girl in front of her. (Corpus: BNC_Written.txt at position 486110)

15. 143 As the final chimes faded, Daniel raised himself on one elbow and started to outline with his **finger** the pattern of reflected leaves that decorated Elisabeth's body. (Corpus: BNC_Written.txt at position 4904052)

17. 182 "What's the weather like?"

"Hmm," I said, staring at the ceiling, one **finger** to my lips.

"Good question," I said. "The weather's like, a manifestation of the energy-transfer effected between volumes of the planet's gaseous envelope due to differential warming of the atmosphere..." (Corpus: BNC_Written.txt at position 5590206)

19. 152 There was a very small monster that could fly. It had wings and a long hard mouth. It made a noise like this: "Cheep-cheep! "It cleaned my **finger** where Eee-Eee had bitten me. Cheep-Cheep's hard little mouth was good at that. (Corpus: BNC_Written.txt at position 5417358)

23. 154 For natural looking, long-lasting hold with shine, simply spray it onto dry hair or add texture and shape by sculpting hair with your **fingers** after you've sprayed. (Corpus: BNC_Written.txt at position 223422)
27. 160 Our heads began to move, wary as lizards, the corpse of unsullied Rosalinda peeped through his **fingers**, and the King faltered. (Corpus: BNC_Written.txt at position 5510160)
37. 146 "They're in the States right now," mother said, licking her **fingers**. (Corpus: BNC_Written.txt at position 5767429)
38. 165 "Aye, that's great, Prentice," Gav said, still closely inspecting the window sill. Then he stood up suddenly and snapped his **fingers**. "Got it!" he said. (Corpus: BNC_Written.txt at position 5754050)
40. 196 When Halesowen began to show their attacking prowess there was plenty of action from Mervyn Cawston, the former Southend keeper, called upon to deputise for Kevin Foster, who was nursing a broken **finger**. (Corpus: BNC_Written.txt at position 405432)
41. 155 "Mmm," Janice nodded. Her right hand went up to Gav's short, brownish hair, and started to play with it, twirling it round her **fingers**. (Corpus: BNC_Written.txt at position 5758632)
42. 190 GUIL: One is free on a boat. For a time. Relatively.
 ROS: What's it like?
 GUIL: Rough. (ROS joins him. They look out over the audience.)
 ROS: I think I'm going to be sick. (GUIL licks a **finger**, holds it up experimentally.) (Corpus: BNC_Written.txt at position 5554323)
48. 139 "The Greedy Party's in power.
 What more does he want?"
 "A wife?" Rory suggested, and then sucked on one **finger**. (Corpus: BNC_Written.txt at position 5798718)
52. 143 "Gosh-darn," Rory said, snapping his **fingers**, looking at Kenneth. (Corpus: BNC_Written.txt at position 5805266)
59. 182 It has indeed been known, although alert,
 To make mistakes, as which of us has not.
 For if across the underwater sand
 Skin divers sometimes dancingly intrude,
 It may confuse the **fingers** of a hand,
 Wriggling through water, for its favourite food. (Corpus: BNC_Written.txt at position 5872011)
63. 146 ROS: (Starts up. snaps **fingers**) Oh! You mean -- you pretend to be him, and I ask you questions! (Corpus: BNC_Written.txt at position 5492824)
64. 160 I expect you'd rather be dead;
 I'm thoroughly convinced of it --
 Now can we go to bed?
 3 Summer Villanelle
 You know exactly what to do --
 Your kiss, your **fingers** on my thigh --
 I think of little else but you. (Corpus: BNC_Written.txt at position 5832565)
69. 182 I pulled its short legs hard. The small monster bit me. Its teeth went right into my **finger**. The pain was terrible. But my mind was exploding. I wanted to destroy it and I didn't care about the pain. I just wanted to kill it. (Corpus: BNC_Written.txt at position 5415294)
70. 160 Soon one little boy was sitting on my stomach and another boy was running round and round me. A little girl was pulling my hair and another girl was biting my **finger**. (Corpus: BNC_Written.txt at position 5445938)

72. 186 "Prentice," mum said, putting her hand on my head and running her **fingers** through my hair. (Corpus: BNC_Written.txt at position 5702921)

73. 160 When you remove your curlers or have finished tonging, loosen the curl by massaging your scalp with your **fingertips** and gently shaking your head, Don't brush your hair. (Corpus: BNC_Written.txt at position 217392)

→ **contact: concrete object (21/60)**

1. 169 She approached the catalpa tree. The expanded E and D would have been invisible to anyone not expecting to find them. As she drew her **finger** along the initials, her stomach clenched and her eyes misted. She beat on the tree with her fists, she threw her arms as far round the tree as they would reach... (Corpus: BNC_Written.txt at position 4839198)

6. 171 He used the nails of his **finger** and thumb to find the head of the pin, itself almost buried in the tan rubber sole of the sandshoe. (Corpus: BNC_Written.txt at position 5635802)

7. 187 ROS approaches him brightly, holding a coin between **finger** and thumb. (Corpus: BNC_Written.txt at position 5505689)

9. 139 No longer weeping, she was in déshabillé and, Anne noticed, was wearing the prince's ring on the third **finger** of her left hand.(Corpus: BNC_Written.txt at position 5095084)

10. 131 And he saw the ring, his ring, that she was wearing openly for the occasion, beside Anne Mowbray's wedding-ring on the third **finger** of her left hand. (Corpus: BNC_Written.txt at position 5179597)

14. 170 I watch de ball fly towards me,
I recall every spin
An unforgettable air speed,
It bounced before me
Jus missing a two day old ant,
Up it cum
A red flash
Lick me **finger** so hard
I thought me finger would die. (Corpus: BNC_Written.txt at position 5339229)

24. 174 "Let that be a lesson to you!" the young soldier warned, taking a spotless handkerchief from his pocket to wipe some Jewish blood from the tips of his manicured **fingers**. (Corpus: BNC_Written.txt at position 4886153)

28. 161 One of the sailors has pursed his lips against a woodwind, his **fingers** and thumb governing, shall we say, the ventages, whereupon, giving it breath, let us say, with his mouth, it, the pipe, discourses, as the saying goes, most eloquent music. (Corpus: BNC_Written.txt at position 5568547)

30. 182 I smudged the ink in my copybook; I did crossings- out and smudged them again. So I got caned on the palms of my hands. I didn't much care; it was only the clumsiness of my **fingers** around the dip-in pen which was at fault, and nothing more intimate. (Corpus: BNC_Written.txt at position 3711657)

32. 148 Position the folds in the fabric which form below each pleat by running your **fingers** down the length of the curtain. (Corpus: BNC_Written.txt at position 621820)

39. 162 "Fiona, I'm getting rather tired of this," Fergus said through his teeth, his **fingers** gripping the wheel harder, rubbing round it. (Corpus: BNC_Written.txt at position 5809604)

46. 185 Could you kill yourself by putting your **fingers** into the electric socket? (Corpus: BNC_Written.txt at position 3727511)

47. 142 It seemed to Joan that the wedding-ring was burning her **finger**; it caught the light, glistening brightly as if wishing to draw attention to the fact that it was embellishing an alien hand. (Corpus: BNC_Written.txt at position 5056696)

50. 136 She took one of his hands and pressed it to the bodice of her gown. He ran his **fingers** lightly over the soft fabric, exploring the contours of her breasts... (Corpus: BNC_Written.txt at position 5198860)

61. 179 Anne's pearl necklace adorned her throat, and her gold ring the third **finger** of Joan's left hand. (Corpus: BNC_Written.txt at position 5056608)

62. 163 Fiona looked down, twisting the handkerchief in her **fingers**. (Corpus: BNC_Written.txt at position 5812739)

65. 178 "Parceline, parceline..." she breathed, tapping her **fingers** on the thick steering wheel. (Corpus: BNC_Written.txt at position 5594169)

74. 181 The sickening feel of woollen gloves being pulled onto your hands and hitting and blunting your **fingertips** so touch was lost.(Corpus: BNC_Written.txt at position 3727422)

75. 190 ...she had a way of conjuring up places, in terms of their dimensions, that led those same children to explore their houses and fields blindfold; the dark world that they discovered with their **fingertips** was new to them -- but not frightening as they had supposed it to be. Nor did Rosa Jacobsen stick slavishly to one version of a tale; it was important to her to show how many angles a single event could be viewed from. (Corpus: BNC_Written.txt at position 4957175)

78. 164 Helen pressed her hands flat on the table, so hard that the ends of her **fingers** went white. (Corpus: BNC_Written.txt at position 6006979)

80. 191 Prentice was still holding the little Lifeboat flag, twirling the pin between his **fingers**. (Corpus: BNC_Written.txt at position 5638567)

→ [contact: 0 \(9/60\)](#)

4. 153 She sat back, munching, face red but eyes twinkling, and with those eyes indicated the two women who'd been looking at us; then she raised one **finger** and pointed first at me, then at her. (Corpus: BNC_Written.txt at position 5765911)

13. 173 After a while, one of Lewis's arms disengaged, waving behind him. One **finger** pointed up to the bright flood-light that was showing me all this. His hand made a cutting, chopping motion. (Corpus: BNC_Written.txt at position 5629238)

18. 162 England team manager Keith Fletcher denied that Stewart's problems with a bruised and misshapen right index **finger** were preventing him from keeping wicket and defended the decision to include Blakey. (Corpus: BNC_Written.txt at position 342780)

20. 166 I recall every spin
An unforgettable air speed,
It bounced before me
Jus missing a two day old ant,
Up it cum
A red flash
Lick me finger so hard
I thought me **finger** would die.
(Corpus: BNC_Written.txt at position 5339260)

44. 166 Wanda was puzzling over how to do subtraction sums correctly and her teacher decided to try to explain things simply to her.

"Look, Wanda," she said. "You have ten **finger**s. If you had four less what would you have?"
"No more violin lessons, miss!" (Corpus: BNC_Written.txt at position 5278123)

51. 192 "It's more fun in a fast car when you're doing all the overtaking, but even just sitting at seventy you'd be surprised how much you pass, sometimes. Now." She held up one **finger**. "Listen and feel as we pull back into the slow lane." (Corpus: BNC_Written.txt at position 5607776)

76. 164 We lay at ease, an arm loose round a waist,
Or side by side and touching at the hips,
As if we were two trees, bough grazing bough,
The twigs being the toes or **finger**tips. (Corpus: BNC_Written.txt at position 5863915)

67. 146 "I wonder," she said, "if a woman could fall into the ways and after a while it wouldn't bother her. Like eating with your **finger**s. (Corpus: BNC_Written.txt at position 6101412)

82. 166 And every day more crazies who debate
With phantom enemies on the street.
I did see one with bright belligerent eye
Gaze from a doorstep at the sky
And give the **finger**, with both hands, to God:
But understand, he was not odd
(Corpus: BNC_Written.txt at position 5861803)

→ [contact: substance \(6/60\)](#)

16. 165 Rory grinned, stirring his **finger** through a little patch of moisture on the side of his glass. (Corpus: BNC_Written.txt at position 5803855)

25. 137 With gouache the paint dries quite quickly. It is water-soluble so you can smudge lines together (often with a **finger**) and I find I can go over and over many times before the painting becomes "muddy". As with everything, you have to get used to the medium, after which your confidence builds up and you start to improve. (Corpus: BNC_Written.txt at position 1196417)

26. 185 Mother licked cream from the ice-cave interior of the meringue, then broke off part of the superstructure with her **finger**s and popped it into her mouth. (Corpus: BNC_Written.txt at position 5764777)

31. 175 Spoon mixture into two greased and base-lined deep 9-inch (23cm) sandwich cake tins. Bake at 180C/350F/Gas 4 for 25 minutes or until the top springs back when pressed with a **finger**. (Corpus: BNC_Written.txt at position 368458)

43. 130 "Malta's fantastic!" said Elizabeth, trickling silvery sand through her **finger**s. (Corpus: BNC_Written.txt at position 511454)

49. 184 She gave a tiny giggle as a little dollop of cream adhered to the tip of her nose; she removed it with one **finger**, licked the pinky, then wiped her nose with her napkin... (Corpus: BNC_Written.txt at position 5763769)

→ [contact: animal \(1/60\)](#)

81. 186 "Oooh! I'm in terrible pain, doctor," said the woman as she walked into the doctor's surgery. "A wasp stung me on the **finger**." (Corpus: BNC_Written.txt at position 5255288)

Finger as adjective (2/62)

+ -ED (2/2)

→ **contact: 0 (2/2)**

34. 147 ...changing expressions, seeing the steadiness of her gaze as she gave thought to the revelation and its implications, the high smooth brow and long-**fingered** white hands. (Corpus: BNC_Written.txt at position 5085517)

35. 146 Features planned include a gardening world where you can discover just how green **fingered** you are. There will also be an entertainment theatre, live music, guest celebrities and talent competitions. (Corpus: BNC_Written.txt at position 50035)

Conclusion : types of objets ith literal sense(/62):

- body-part: 23/62
- concrete object: 21/62
- no contact (contact 0): 11/62
- substance: 6/62
- animal: 1/62

2 Conceptual sense (20/82)

2.1 Metonymic use (18/20)

2.1.1 A person (4/20)

Finger as noun (4/4)

Finger / + -S (4/4)

→ **contact 0 (3/4):**

71. 175 Leaving the bathroom, the immediate lobby on the south side of the top floor is fitted with a pair of walnut wall cabinets. Unglazed and firmly closed against small **fingers**, these are the medicine cabinets containing invalid food, " Torch brand hydrogen, Allenbury's vaseline, swabs, bandages and splints. (Corpus: BNC_Written.txt at position 3012662)

79. 171 His pigtailed youngest daughter, Mary, found that her quick eye and nimble "old enough to be trusted **fingers** were invaluable in the unpacking, placing and appreciation of the tiny articles that arrived almost hourly by carrier... (Corpus: BNC_Written.txt at position 2966336)

36. 163 I repeat when I like.
I can't go rong.
I look and i.c.
It's rite.
I repeat when I like. I have
poetic licence!
don't question me????
The Cold War
When me **fingers** feel not dere
An me Dreadlocks feel like hair (Corpus: BNC_Written.txt at position 5312866)

→ concrete object (1/4)

77. 162 Lay on the beach,
Deaf as a shell
And the land froze
And the seas froze
" Who's a pretty boy then?' Budgie cried.
Usquebaugh
Deft, practised, eager,
Your **fingers** twist the metal cap.
Late into the moth-infested night (Corpus: BNC_Written.txt at position 5844767)

Conclusion : types of objects with sense 2.1.1 (/4)

- no contact (contact 0): 3/4
- concrete object : 1/4

2.1.2 *Finger* as a focused stage of an act (6/20)

Finger as verb (2/2)

+ -ED (1/2)

→ concrete object (1/1):

33. 132 She smoothed her unwrinkled silk dress, **fingered** the amber beads at her neck and settled into her chair, determined to experience herself being well-pleased. (Corpus: BNC_Written.txt at position 4981685)

+ -ING (1/2)

→ concrete object (1/1):

45. 155 Elisabeth did not enter the museum at once, but lingered in the courtyard. She stood **fingering** the tresses of the willow, branches of which wept over the upturned hull of a boat, which had been dug out of the peat bog to the north of the island and was permanently on display. (Corpus: BNC_Written.txt at position 4843604)

In idioms : *Finger* as noun(4/4)

Finger/ + -S (4/4)

→ contact 0 (4/4):

8. 147 ...only occasionally does the narrator let himself testify. As a rule, he prefers to shake his **finger** at men as they move by wrong paths from the cradle to the grave, and to remind himself with a frown that he, too, is human... (Corpus: BNC_Written.txt at position 1329549)

29. 149 **Fingers** are crossed that huge spending cuts will spare capital projects (road, rail, London tube, for example) that would create -- or at least protect -- jobs. (Corpus: BNC_Written.txt at position 1430469)

22. 172 ...suffering from quite stupendous hangovers incurred through the intake of near- fatal levels of alcohol the night before, and their subsequent professional careers sternly **finger**-wagging at any member of the general public who dares to consume over the course of a week what they themselves had been perfectly happy to sink during the average evening. (Corpus: BNC_Written.txt at position 5751985)
admonitory gesture to warn, advice

11. 154 By Reuter in Damascus
SYRIA yesterday denounced the assassination of the Lebanese President, Rene Muawad, 17 days after he took office, and pointed the **finger** of suspicion at General Michel Aoun. (Corpus: BNC_Written.txt at position 2125085)

Conclusion : types of objects with sense 2.1.2 (/6)

- no contact (contact 0): 4/6

- concrete object : 2/6

2.1.3 *Finger* as a characteristic of a category (8/20)

→ contact 0 (8/8):

21.146 I could tell mum was leaning forward, trying to get me to meet her eyes, but I just frowned, and with my moistened **finger**-tip cleared my plate. (Corpus: BNC_Written.txt at position 5771489)

53. 160 I cut my **finger**nails all the time, and every time I think to cut them, they need cutting. (Corpus: BNC_Written.txt at position 5460050)

54. 162 The **finger**nails also grow before birth, though not the beard.(Corpus: BNC_Written.txt at position 5459744)
55. 190 ROS: (Cutting his fingernails) Another curious scientific phenomenon is the fact that the **finger**nails grow after death, as does the beard.(Corpus: BNC_Written.txt at position 5459541)
56. 187 You had bitter aloes painted onto your **finger**nails to stop you biting them. (Corpus: BNC_Written.txt at position 3708976)
57. 157 Could you kill yourself by putting your fingers into the electric socket? Your **finger**nails were cut too short. (Corpus: BNC_Written.txt at position 3727551)
58. 183 ROS: (Cutting his **finger**nails) Another curious scientific phenomenon is the fact that the fingernails grow after death, as does the beard. (Corpus: BNC_Written.txt at position 5459468)
68. 140 It is sometimes claimed that stylometry (= study of linguistic style) enables the scholar to identify the **finger**print of an author, a stylistic criterion, or set of criteria, which can be used to determine with certainty questions of disputed authorship. (Corpus: BNC_Written.txt at position 4080070)

Conclusion : types of objects with sense 2.1.3(/8)

- no contact (contact 0): 8/8

Conclusion : types of objets with metonymic sense(/18):

- no contact (contact 0): 15/18

- concrete object: 3/18

2.2 Metaphors (2/20)

2.2.1 *Finger* as characteristics of the target object (2/2)

Finger as noun (2/2)

Finger/ + -S (2/2)

60. 167 To see some jolly neighbours cook
Down in their kitchen, like a lighted box
Beyond the fence, where over fox-glove, mint, and ribs of fern, the small dark plain
Fingers of ivy graze my pane.
(Perhaps before you come I'll snip them off.) (Corpus: BNC_Written.txt at position 5860486)

66. 152 For he sometimes makes me sleep on the wrong side of my own bed.
For he cannot be bossed around.
For he has this grace, that he is happy to eat fish **fingers** or

Chinese takeaway or to cook the supper himself.
For he knows about my cooking and is realistic. (Corpus: BNC_Written.txt at position 5838299)

APPENDIX 3: ARM

BNC (written) (1,007, 000)

Literal sense: 54/78 = 69%

Conceptual sense: 24/78 = 31%

(▣) = types of object in contact with the “arm”

1. Literal sense (54/78)

Arm as noun (54/54)

Arm (54/54)

→ contact: body-part (27/54)

3. 136 There was blood on her face and she was shaking like a leaf. "Please, Winfield," she said. "No more." But Winfield took her **arm** and pulled her up the stairs.

"You're my prisoner," he shouted at her, "and you're not going to leave." Then he pushed her into the bathroom and locked the door. (Corpus: BNC_Written.txt at position 5949090)

4. 152 Lamarr Dean was facing the Apache, starting to drink, sipping at the whisky to give the Apache all the chance he needed. Like saying come on, nudge my **arm** and see what happens. (Corpus: BNC_Written.txt at position 6063591)

6. 187 "What about you, you mean," whispered Harald. "I'm not important. Look, sir, you'd better give me your passport."

"What? Why?"

"Ssh!" Harald put his hand on the older man's **arm** and stopped talking. Carl looked up and saw the young air hostess staring at them. Her machine gun was pointing at them too. He stopped talking and looked out of the window. (Corpus: BNC_Written.txt at position 5979178)

10. 188 At last, with a little shaking of his **arm**, and thrice his head waving up and down, he raises a sigh so piteous and profound that it does seem to shatter all his bulk and end his being. (Corpus: BNC_Written.txt at position 5478799)

17. 178 The Colonel attempted to place a reassuring **arm** around Miss Danziger's shoulder. "Are you fully recovered?" (Corpus: BNC_Written.txt at position 4866242)

18. 184 ...but his wife was having a baby so Ivor Gundry, one of our best scholars, from Bridport in Dorset, had volunteered to take his place. At his funeral Rev Leslie had to offer his **arm** as well as his heart to the young lady, who only six weeks previously he had married to Ivor. (Corpus: BNC_Written.txt at position 2770344)
21. 176 The dressing-robot made me a wedding dress — we have robots for everything like that. The dress was white and covered me all over except for my eyes. My father took my **arm**. Buff was waiting with my mother. (Corpus: BNC_Written.txt at position 5405697)
23. 176 He thought the others were under the plane somewhere, but he did not know where. Harald put his hand on Carl's **arm**. Carl looked at him. Harald did not speak, but he was looking at the girl, very carefully. (Corpus: BNC_Written.txt at position 6015130)
29. 133 "Long live Edward! Long live love! Long live Edward! Long live love!" Mr Churchill came over and put his hand on the King's **arm**. Edward looked up. "Thank you, Winston," he said. "You were a good friend to me." (Corpus: BNC_Written.txt at position 5960410)
31. 143 ...lay me down and covered me with kisses and love bites. Joanna had missed out on love bites. But my father had taught me how to make them on my **arm**, fox-bites. So I thought they were all part of a jokey game. But there was some funny feeling. Joseph seemed to be curiously affected by the game. (Corpus: BNC_Written.txt at position 3373947)
32. 163 "Are you all right?" Svend had come quickly. "Of course! This wasn't here last year!" He shunted the still into a corner with his foot. Taking his visitor by the **arm**, he walked her slowly along the corridor. "I must explain how I've managed to accumulate all this new stuff. (Corpus: BNC_Written.txt at position 4850517)
33. 171 Then he reappeared, stood by Fiona. He was holding a key and a couple of toilet rolls; he said something Rory didn't catch. "Oh no," Fiona said, touching Fergus's **arm**. Her face looked amused but concerned. (Corpus: BNC_Written.txt at position 5658808)
34. 172 In half an hour I will ask you again about my brothers." Helen stared out at the plane. Its front door was very small and far away. Colonel Carter touched her **arm**. "Here are some binoculars, Prime Minister. You will be able to see more clearly with these." (Corpus: BNC_Written.txt at position 5990433)
44. 186 "Alas that my lord of Gloucester had so far forgotten his duty!" "Indeed so great was the press of people around us, that I gripped my brother's **arm** lest he be trampled underfoot. My right hand went instinctively to my sword, thus to force a way through the crowd and take my rightful place. (Corpus: BNC_Written.txt at position 5187718)
46. 169 It is opaque.
Opaque, yet once I slept with you all night
Dreaming about you -- though not quite embraced
Always in contact felt however slight.
We lay at ease, an **arm** loose round a waist,
Or side by side and touching at the hips... (Corpus: BNC_Written.txt at position 5863765)
54. 165 "Ferg," Rory said, going over to him. He hesitated, then put his **arm** on the man's shoulders. "Fergus; for God's sake man, what's wrong?" Fergus looked up and suddenly Rory felt older than him. (Corpus: BNC_Written.txt at position 5678690)
55. 177 (They laugh good-naturedly at the mistake. They all meet midstage, turn upstage to walk, HAMLET in the middle, **arm** over each shoulder.) (Corpus: BNC_Written.txt at position 5497316)
56. 163 "Thank you for coming," he said. "But I have nothing more to say. And I want to be alone." The Archbishop stood up to go, but then turned and touched the King's **arm**. "Please, Sir, think again. The Church will be against you." (Corpus: BNC_Written.txt at position 5955619)

57. 174 He's the very man for our purpose. Let us invite him up, Mr Slipshod." A moment later the slithery figure of the Town Clerk emerged from the Hall. He touched Pugwash on the **arm**. "Pray excuse me," he said, "but our distinguished new Mayor wishes to make your acquaintance. Be so good as to enter." (Corpus: BNC_Written.txt at position 4992755)

60. 189 Rory saw his mother's shoulders move once, and she put her head down for a second, sniffed. She reached down for her handbag on the floor. Kenneth handed her his hanky. He put his **arm** round his mum's shoulders. Mary moved her seat closer, reached out and took one of the older woman's hands in hers. "God, I miss that old devil," mum said, and blew her nose. (Corpus: BNC_Written.txt at position 5650658)

61. 178 Rory stood at Janice Rae's side, humming something monotonous, one **arm** round Janice's waist and attempting to tickle her, just above her right hip.
"Very clean," Janice said eventually. (Corpus: BNC_Written.txt at position 5791057)

63. Ash looked concerned for a second, then her smile returned. She put her **arm** round my shoulders. "Saw James over by the accordion earlier. Hey; you want to take a stroll round the battlements?" (Corpus: BNC_Written.txt at position 5623999)

64. 176 "Part from that; everything okay, aye?" Ash said, putting her **arm** round my shoulders.
"Help me, Ashley," I said, closing my eyes and putting my head on... (Corpus: BNC_Written.txt at position 5696110)

65. 181 "I used to worry about Darth Vader," Prentice confessed, putting his **arm** round Rory's waist and lifting his foot to massage it with one hand. "I'd lie under the covers and make the noise he makes when he's breathing, and then I'd stop, but sometimes it would go on after I'd stopped!" (Corpus: BNC_Written.txt at position 5645657)

69. 188 Carl and Harald watched the gun carefully. "Poor girl," Carl thought. "Poor little murderess."
The bearded man came out of the Captain's cabin and put his hand on the girl's **arm**. "Stop it, little flower," he said. "Don't talk to them. That's not your job." (Corpus: BNC_Written.txt at position 6004692)

70. 154 After thirty long years it was time to forget the past. Elizabeth kissed the Duchess and touched her **arm**. Then she turned to the Duke and said: "Wallis is so beautiful, uncle. I think you're a lucky man." (Corpus: BNC_Written.txt at position 5965804)

72. 192 Anne, who was heart-free despite her sometimes extravagant claims, was surprised to see tears coursing down Joan's face. Her heart touched on the instant by her friend's distress, she put an **arm** through hers and led her back to the palace.
" 'Twill be all right, Joan," she assured her. "I was but teasing -- I meant no harm. Take heart! The prince will not forget you – (Corpus: BNC_Written.txt at position 5075451)

→ [contact](#) : 0 (14/54)

5. 154 "There's a letter from Mrs Viney," explained Mother. "Her son broke his **arm** and she went home early. She's coming again later this morning." (Corpus: BNC_Written.txt at position 5355933)

9. 167 Inside the morgue, when she had had her cry.
She found the body dumped there all awry,
Not as she thought right for a person's end,
Left sideways like that on one **arm** and thigh. (Corpus: BNC_Written.txt at position 5885148)

12. 172 ...and with a look so piteous, he takes her by the wrist and holds her hard, then he goes to the length of his **arm**, and with his other hand over his brow, falls to such perusal of her face as he would draw it... (Corpus: BNC_Written.txt at position 5478653)

22. 153 There is no need to learn all the semaphore signs before beginning to signal. Try learning the letters A to G. You must make A, B and C with the RIGHT **arm**, but D can be made with either arm. (Corpus: BNC_Written.txt at position 504624)

26. 131 At first I couldn't understand what was happening. Then I remembered. The monster with teeth!

I tried to hit the nose but my **arm** didn't move. Something was wrong with me. My body felt empty and I was hot inside, like a fire. My body ached and my skin was wet all over. (Corpus: BNC_Written.txt at position 5415865)

37. 188 There is no need to learn all the semaphore signs before beginning to signal. Try learning the letters A to G. You must make A, B and C with the RIGHT arm, but D can be made with either **arm**. If you're signalling E, F and G, you must do it with your LEFT arm. (Corpus: BNC_Written.txt at position 504660)

45. 145 You must make A, B and C with the RIGHT arm, but D can be made with either arm. If you're signalling E, F and G, you must do it with your LEFT **arm**. Look at the alphabet semaphore chart to find out where to place your flags. Practise sending the following words: BE, ACE, BAD, BEG, ADD etc. (Corpus: BNC_Written.txt at position 504732)

59. 151 HAMLET: My excellent friends! How dost thou Guildenstern? (Coming downstage with an **arm** raised to ROS, GUIL meanwhile bowing to no greeting. HAMLET corrects himself. Still to ROS.) (Corpus: BNC_Written.txt at position 5497089)

67. 167 Elisabeth watched as a bee visited each of the flowers in turn, slowly, carefully, taking its time. A jug of lemonade and two glasses stood by the old woman's **arm**. She located them without difficulty and poured the cold liquid without spilling. (Corpus: BNC_Written.txt at position 4951647)

68. 190 I dreamt of Uncle Rory coming home, driving the old Rover Verity had been born in, the window open, his **arm** sticking out, him smiling and holding the missing folder in his hand; waving it. In the dream, he had a funny looking white towel wrapped round his neck, and that was when I woke up and remembered. (Corpus: BNC_Written.txt at position 5711143)

74. 178 Mr Hansell got very angry. He took a stick and hit me on the arm. "Don't look out of the window, little boy," he shouted. "Look at the book." He hit me many times and my **arm** was red. (Corpus: BNC_Written.txt at position 5940152)

73. 148 Hamish moved one **arm** up to indicate they should move down the corridor to where they could see the exciting zinc-silicoborates. (Corpus: BNC_Written.txt at position 5794594)

75. 149 The man's **arm** went up and he threw the grenade through the open door. There was a very loud BANG! at the front of the plane, and a flash of white light that burned Carl's eyes. (Corpus: BNC_Written.txt at position 6015511)

81. 152 Reproduced courtesy of the Wykeham Galleries Procedure I stand at an easel to paint. This gives you the freedom to move back and forth and swing your **arm** -- you must feel free! (Corpus: BNC_Written.txt at position 1195364)

→ [contact: person \(7/54\)](#)

2. 150 I'll tell you it gave me the strangest feeling I ever had. The two Apaches carried Springfields, as I had guessed. They held them cradled across one **arm** and even with the bullet belts and all, they looked kind of funny. (Corpus: BNC_Written.txt at position 6060011)

14. 143 But she was crying too, and the young man in the black shirt put his **arm** around her and held her. She leaned against him, crying, and he whispered something in her ear. (Corpus: BNC_Written.txt at position 5994815)

15. 165 In the wind and rattle sounds I'd hear her start to cry and put my **arm** around her and lift her chin and say something that would calm her. (Corpus: BNC_Written.txt at position 6067904)

16. 147 He put an **arm** around her then and drew her close. He kissed her on the cheek and then, as she turned her mouth to his, on the lips. (Corpus: BNC_Written.txt at position 5198145)

36. 166 No-one could be spared to get fresh cots, so these men from farthest Arran and the Rhondda Valley sat up for the rest of the night with a brown baby under each **arm**. I don't think I went to bed, and at first light Father O'Sullivan came into my office. (Corpus: BNC_Written.txt at position 2791167)

58. 170 Prince Richard was asleep beside her, his head on his mother's lap, her **arm** protectively encircling him. The prince's young bride lay a short distance away beside her sisters-in-law, all of them huddled together for warmth and sleeping fast, exhausted by the trials... (Corpus: BNC_Written.txt at position 5120051)

62. 177 Leeds", organised by the Variety Club of Great Britain and the local evening paper, the big event in my London visit was not Buckingham Palace, nor having Norman Wisdom put his **arm** round me, but gazing at a skiffle group which had played in the 21's coffee bar with Tommy Steele. (Corpus: BNC_Written.txt at position 3358522)

→ contact: concrete object (5/54)

25. 162 She climbed out of the wood by means of a stile and took the path that led round the cornfield. She saw the Colonel coming towards her, his gun tucked under his **arm**. (Corpus: BNC_Written.txt at position 4931303)

27. 186 They were full of words and they didn't have any pictures. Sometimes I stopped reading and looked out of the window. Mr Hansell got very angry. He took a stick and hit me on the **arm**. "Don't look out of the window, little boy," he shouted.

"Look at the book." He hit me many times and my arm was red.

"Buckingham Palace was very big, and people sometimes got lost."(Corpus: BNC_Written.txt at position 5940042)

42. 176 "He's the "hare", " explained Bobbie. "All the other boys are the " hounds" and they have to chase after him." There was a bag under the hare's **arm**. It was full of pieces of paper, which he dropped behind him for the other boys to follow. (Corpus: BNC_Written.txt at position 5388141)

48. 162 She intended to slap Elisabeth on the back, but she was too late; Elisabeth had made a dash for fresh air and Mitzi's **arm** met that of Elisabeth's chair. Mitzi was immediately conscious of pain and seconds later of the table upturning and its entire contents spreading themselves across the parquet. (Corpus: BNC_Written.txt at position 4865402)

71. 174 Who are these two, these fiercely attractive men who want me to stick their needle in my **arm**? (Corpus: BNC_Written.txt at position 5888333)

→ contact: implicit (1/54)

66. 177 We shall be making music. I shall be singing Morgen -- twice over." He kissed her. Holding her at **arm's** length he stared into her face as if to memorise every detail.

"Get back here in August, August of any year, August of every year. I shall get back too. That is a promise.

(Corpus: BNC_Written.txt at position 4907031)

Conclusion : types of objects with sense 1 (= literal sense) (/54) :

- body-part: 27/54

- contact 0 (no object in contact): 14/54

- person: 7/54

- concrete object: 5/54

- implicit: 1/54

2 Conceptual sense (24/78)

2.1 Metonymic use (4/24)

2.1.1 a person (1/4)

Arm as noun (1/1)

Arm (1/1)

→ contact: body-part (1/1)

7. 176 "I shouldn't be here!" she thought, as the train went faster.

"I'll be in terrible trouble!"

She put out a hand and touched the nearest **arm**, and the driver turned round quickly. "What are you doing here?" he shouted. (Corpus: BNC_Written.txt at position 5370292)

2.1.2 As a characteristic of a category (2/4)

Arm as noun (2/2)

Arm (2/2)

→ contact: implicit (2/2)

20. 183 A TRICKLE of returning Romanian dissidents, wearing **arm** bands and rallying behind the National Salvation Front, have arrived in the capital.

(Corpus: BNC_Written.txt at position 2714069)

24. 140 The eighteen " period walnut **arm** chairs are three inches high. Lutyens designed the screen made by Cartier Ltd. to hide the carrying of dishes from the service area to the table.(Corpus: BNC_Written.txt at position 2991409)

2.1.3 As a focused stage of an act (1/4)

- Expression : “arm in arm” = close (physical/spatial proximity) (1/1)

Arm as noun (1/1)

Arm (1/1)

→ contact: implicit (1/1)

35. 192 Someone crying his eyes out!

Did you hear about the night hunter who shot tigers by aiming
right between their luminous eyes?

He was eaten by two one eyed tigers walking along a path arm in **arm**!

I divorced my wife for smoking in the toilet!

(Corpus: BNC_Written.txt at position 5287387)

Conclusion : types of objects with sense 2.1 (= metonymic sense) (/4):

- implicit: 3/4

- body-part: 1/4

2.2 Metaphoric use (16/24)

2.2.1 Section, division, part (10/16)

Arm as noun (10/10)

Arm (10/10)

1. 148 But most welcome for the channel will be the news that Wordperfect will not be setting up its own consultancy **arm** a la Microsoft and Lotus. In Wordperfect's estimation the resellers usually make up to five times the money from installation and integration as from the actual product sale. (Corpus: BNC_Written.txt at position 3987013)

8. 171 Systems Ltd: the aim is to generate some £20m in revenues for White Cross over the next three years; Out Source is recruiting UK resellers through its Channel Source Europe **arm**, and they will target medium sized customers

in the finance, retail and insurance sectors; European White Cross channels in France, Germany, Italy and Switzerland are set to follow. (Corpus: BNC_Written.txt at position 4023922)

11. 133 Profits to end-September soared 56% to £1.027bn after a rip-roaring performance by both the tobacco **arm** and US insurer, Farmers. (Corpus: BNC_Written.txt at position 1417464)

28. 164 Tobacco-to-insurance group BAT reveals third quarter figures on Wednesday. A much improved performance from its insurance **arm** Eagle Star should push profits for the nine months over the £1bn mark. (Corpus: BNC_Written.txt at position 1403891)

39. 150 50%-owned satellite venture now has weekly revenues of more than £6m, with 80% coming from pay service subscriptions. The 50%-owned Ansett Transport **arm** in Australia is now making money. (Corpus: BNC_Written.txt at position 1424078)

40. 165 ...against the trend of creating a new organisation for the 21st century comprising men and women. He sees the decision to fully integrate the women's **arm** into the organisation as a way of boosting membership. (Corpus: BNC_Written.txt at position 2276585)

47. 192 TELECOMS giant Cable & Wireless has announced a £500m deal with Canada's BCE. The latter will buy a 20% stake in C&W's 'phone **arm** Mercury for £480m with C&W reciprocating with a £30m investment in their cable and TV interests. Cable & wireless shares jumped 24p to 673p. (Corpus: BNC_Written.txt at position 1446214)

50. 155 The 50%-owned Ansett Transport arm in Australia is now making money. Shares in News Corp and its UK **arm** News International have enjoyed a dramatic recovery and more than doubled in the last year. (Corpus: BNC_Written.txt at position 1424151)

51. 177 Cut-price chains Presto and Lo-Cost, caught up in a bloody head-to-head battle with discounters like Kwik Save, managed only a small profits increase. BP Nutrition, the food **arm** of the UK oil giant, is in talks that could lead to the Sarah Lee Corporation of Chicago acquiring its consumer food group. Nutrition, based in the Netherlands, employs 2,300 and has a turnover of £190m. (Corpus: BNC_Written.txt at position 1502682)

53. 172 The Time Warner AxS **arm** of Time Warner Inc has bought a 50% stake in MetroComm Inc, builder and operator of a fibre optic competitive telephone access network in Columbus, Ohio on undisclosed terms... (Corpus: BNC_Written.txt at position 4014455)

2.2.2 Any entity having a shape similar to the one of an arm (6/16)

A) = inlet of water, narrow extension of water jutting out from a large mass of water (partie longue et étroite d'une rivière reliée à une mer, fleuve ou autre ensemble plus grand) (1/6)

Arm as noun (1/1)

Arm (1/1)

52. 156 There is beautiful scenery to be seen travelling to Malbork, a town on the eastern **arm** of the Vistula where there is a famous red brick Gothic castle, built in the 13th Century. (Corpus: BNC_Written.txt at position 140220)

B) = curtain fitment, accessory (5/6)

Arm as noun (5/5)

Arm (5/5)

13. 138 Optional cording sets with overlap **arm** are available which enable the curtains to overlap at the centre when closed. (Corpus: BNC_Written.txt at position 566957)

19. 177 Measure the track or pole length, excluding any finials. Add to this measurement the depth of any return(s) plus an extra 10/15cm (4/5in) if you have an overlap **arm** attached to your fitment. (Corpus: BNC_Written.txt at position 593736)

43. 148 When curtains are to butt together, plan to have a half space at each leading edge. When using an overlap **arm**, leave enough space to correspond to the size of the fitment. One complete space on each curtain is sufficient. (Corpus: BNC_Written.txt at position 584845)

76. 188 Subtract the track length (including return and overlap **arm** where applicable) from the total width of the finished flat curtain. The remainder is the amount of fabric which will be fitted into the pleats. (Corpus: BNC_Written.txt at position 585690)

77. 151 ...to remember that the amount of fabric left unpleated (i.e., the total of all the spaces) must equal the length of your track(plus returns and overlap **arm** where applicable). Where the curtains are to cover returns, locate one pleat at each end of the curtain fixture and leave a flat space at the outside... (Corpus: BNC_Written.txt at position 584535)

2.3 Interaction between metonymy and metaphor (4/24)

2.3.1 Metaphor from metonymy (4/4)

- Expression : “a shot” in the arm” = stimulus (*coup de fouet, remontant, stimulant passager*) (4/4)

Arm as noun (4/4)

Arm (4/4)

30. 170 By Dave Allard

IPSWICH Town's successful management duo of John Lyall and Mick McGiven have signed new contracts with the Suffolk club. The news comes as a shot in the **arm** for players and supporters in a week when the Town face a testing FA Cup sixth round tie against Arsenal at Portman Road. (Corpus: BNC_Written.txt at position 329586)

78. 134 The "Music" industry received a shot in the **arm**, with the success of the Beatles in the sixties. A multi-million pound industry in its own right, it cost 3 guitars and a drum kit to commence business. (Corpus: BNC_Written.txt at position 1794571)

79. 182 THE UK electrical retail consortium E & S Retail received a shot in the **arm** yesterday with a new recruit. Midlands Electricity is to join Eastern and Southern Electric in a joint venture to create the UK's third largest operation. (Corpus: BNC_Written.txt at position 1409564)

80. 168 SPECULATION of a fresh cut in the cost of borrowing gave shares a shot in the **arm** yesterday. A cut of 1% to 7% could be on the cards in tomorrow's autumn statement and this pushed the FT-SE 100 Index ahead by over 19...(Corpus: BNC_Written.txt at position 1443950)

3. Out of classification

49. 171 OUT AND ABOUT

There are so many things to see and do in a short stay. A rich variety of attractions exist throughout the area; from the internationally famous Fleet Air **Arm** Museum at Yeovilton to the renowned Cricket St Thomas Wildlife Park near Chard. (Corpus: BNC_Written.txt at position 40904)

APPENDIX 4: ELBOW

BNC written (1, 007, 000)

Literal sense: 5/9 = 56%

Conceptual sense: 4/9 = 44%

1. Literal sense (5/9)

1.1 = body-part (5/5)

Elbow as noun (5/5)

Elbow (5/5)

1. 166 ...and he or she hears you taking the mickey, there are lots of particularly nasty cures which can be prescribed, such as:

Boil on the neck -- AMPUTATION!

Wart on the **elbow** -- AMPUTATION!!

Runny bottom -- AMPUTATION!!! (Corpus: BNC_Written.txt at position 5252229)

2. 159 Sensing that the old woman was about to rise from the bench, the cat jumped from her lap and stood by her side. Elisabeth put her hand under Rosa Jacobsen's **elbow** and led her into the cottage. The kitchen occupied the lower storey of the dwelling and most of the space in it was taken up by a lemon wood table and four rush-seated chairs decorated in traditional colours... (Corpus: BNC_Written.txt at position 4951123)

3. 167 ...motionless, naked bodies lay in a shaft of uncertain sunlight that spread, dappled, over the music-room divan. As the final chimes faded, Daniel raised himself on one **elbow** and started to outline with his finger the pattern of reflected leaves that decorated Elisabeth's body. (Corpus: BNC_Written.txt at position 4904013)

4. 182 That's better...(Immediately, behind him a grand procession enters, principally CLAUDIUS, GERTRUDE, POLONIUS and OPHELIA. CLAUDIUS takes ROS's **elbow** as he passes and is immediately deep in conversation: the context is Shakespeare Act III, scene i. GUIL still faces front as CLAUDIUS, ROS, etc., pass upstage and turn.) (Corpus: BNC_Written.txt at position 5520177)

7. 193 "They got time,"Dean said. "What else do they do?"

"That's mescal,"Early said then. Lamarr Dean went on staring. "I guess," he said. He moved towards the first Apache, holding his drink, his **elbow** sliding along the edge of the bar until he was right next to the Apache. Early stayed where he was. (Corpus: BNC_Written.txt at position 6062494)

2 Conceptual sense (4/9)

2.1 The haptic metaphor : physical interaction (3/4)

- **Near, next to (physical or spatial proximity) in the expression at someone's elbow (3/3)**

Elbow as noun (3/3)

Elbow (3/3)

5. 181 "Now, let me see..."

"Madam my mother, pray permit me to go to my brother," the prince pleaded, still at his mother's **elbow** as she moved away.

"It is out of the question," came the reply. "Later we shall speak further of the matter..." (Corpus: BNC_Written.txt at position 5117868)

6. 168 He paused and seemed to be considering his next words with especial care.

"And yet, my lord?" prompted Joan. A court equerry appeared at that point at the prince's **elbow**.

"My lord prince," he said, "the king your father desires speech with you." (Corpus: BNC_Written.txt at position 5061231)

8. 185 None too happy with what she privately termed her daughter-in-law's faint-hearted response, the queen-dowager sat lost in thought for a minute. She gave a start as the prince, at her **elbow**, spoke.

"Maman, please say I can go to the king, with or without the lady Anne," he said. "Edward needs me." (Corpus: BNC_Written.txt at position 5135290)

2.2 The haptic metaphor: mental interaction (1/4)

- **Support, be on someone's side (mental rather than physical proximity) in the expression at someone's elbow (1/1)**

Elbow as noun (1/1)

Elbow (1/1)

9. 184 "Edward is wont to forget, you understand, being such a new sovereign -- and 'tis my duty to remind him."

"Alas that a child of barely eleven summers must stand at the king's **elbow** to remind him of his duty!" lamented Elizabeth Woodville. "Woe is me that Edward's kinsmen, plucked from his side during his first moments of kingship, lie now in the dungeons of Pontefract!" (Corpus: BNC_Written.txt at position 5114745)

APPENDIX 5: ELBOW

Brown Corpus (1,000, 000)

Literal sense: 6/8 = 75 %

Conceptual sense: 2/8 = 25 %

(▪) = types of objects in contact with the “elbow(s)”

1 Literal sense (6/8)

1.1 Body-part (6/6)

Elbow- as noun (6/6)

Elbows (6/6)

→ contact: concrete object (3/6)

5.164 There was no time to pick out a penny; I got a coin between my thumb and forefinger, leaned my **elbows** in a very natural and casual manner on top of the truck cab and flipped my little missile. (Corpus: Brown.txt at position 7154286)

7. 134 Blue Throat and his gang stayed where they were. Blue Throat was slumped with his back against the bar, **elbows** supporting his massive frame. He leered at the stranger as the distance between them closed. (Corpus: Brown.txt at position 7289079)

8.197 The "push" exercise of this Push-Pull Super-Set is the Bench Press done with **elbows** well pulled back and with a greater downward stretch of the pectorals not possible with the barbell variation. (Corpus: Brown.txt at position 1705681)

→ contact: 0 (2/6)

1.165 They roll at night in ashes to keep warm and their second skin has a light dusty cast to it. In spots such as the **elbows** and knees the second skin is worn off and I realized the aborigines were much darker than they appeared; as if the coating of sweat, dirt, and ashes were a cosmetic. (Corpus: Brown.txt at position 3092836)

4.148 He wore tennis shorts and a white sweater with a red V at the neck, the sleeves pushed above the **elbows**. (Corpus: Brown.txt at position 7236813)

→ contact: body-part (1/6)

2.172 He held his **elbows** away from his body, and the little sweet potato trilled neatly and sweetly as he tickled its tune-belly. (Corpus: Brown.txt at position 7336319)

Conclusion : types of objects with sense 1 (literal sense)

(/6):

- concrete object: 3/6

- contact: 0: 2/6

- body-part: 1/6

2 Conceptual sense (1/2)

2.1 Metonymic use (2/2)

2.1.1 *Elbow* as a person (1/2)

Elbow- as noun (1/1)

Elbows (1/1)

→ contact: 0 (1/1)

3.131 When their levies came shambling into camp, they were all **elbows**, hair, and beard. They emerged as interchangeable cogs in a faulty but formidable machine: shaved nearly naked, hair queued, greatcoated, jackbooted... (Corpus: Brown.txt at position 3819574)

2.1.2 *Elbow* as a focused stage of an act (1/2)

Elbow- as noun (1/1)

+ -ING (1/1)

→ contact: person (1/1)

6.151 They moved toward the skiffs with shocking eagerness, **elbowing** and shoving. Four men were knocked down, but did not attempt to rise. They crept down the muddy slope toward the waiting boats. (Corpus: Brown.txt at position 6344854)

Conclusion : types of objects with sense 2.1 (metonymic sense)

(/2):

- contact: 0: 1/2

- person: 1/2

APPENDIX 6: KNUCKLE

BNC (written) (1,007,000)

Literal sense: 2/2 = 100%

Conceptual sense: 0/2 = 0%

(▪) = types of objects in contact with the “knuckles”

1 Literal sense (2/2)

1.1 body-part (2/2)

Knuckle/-S (2/2)

→ contact: 0 (1/1)

1. 190 He holds you by the voice of his demands,
Which take unfaltering body on the air
As need itself, live, famished, clenched like hands
Pale at the **knuckle**. Then, his luminous stare,
That too. (Corpus: BNC_Written.txt at position 5878866)

→ contact: concrete object (1/1)

2. 190 "Fiona!" Fergus shouted, **knuckles** white on the steering wheel.
"For God's sake, there's nothing to have your nose rubbed in! Julie's just a friend. I haven't touched her!"
(Corpus: BNC_Written.txt at position 5813286)

Conclusion : types of objects with sense 1. (*knuckle-* = body-part) (/2):

- contact 0: 1/2

- concrete object: 1/2

APPENDIX 7: KNUCKLE

Brown Corpus (1,000,000)

Literal sense: 6/11 = 55%

Conceptual sense: 5/11 = 45%

(▪) = types of objects in contact with the “knuckles”

1. Literal sense (6/11)

1.1 body-part (6/6)

Knuckle- as noun (5/6)

Knuckles (5/5)

→ contact: 0 (2/5)

1. 194 They answered him in monosyllables, nods, occasionally muttering in Greek to one another, awaiting the word from Papa, who restlessly cracked his **knuckles**, anxious to stuff himself into his white Cadillac and burst off to the freeway.

(Corpus: Brown.txt at position 6213664)

5. 169 A train hooted. Instantly, he chilled. They were pursuing him. He was frightened; his fists clutched so tightly that his **knuckle**s hurt. Then Katie stumbled, and again he was falling, falling! falling. (Corpus: Brown.txt at position 6115126)

→ contact: concrete object (2/5)

8. 197 Past it I could see part of a desk, a flag in a corner, a rug on the floor. The director's office. I rapped my **knuckles** on the counter. The director came to the door. I was at once disappointed, although just what I had expected him to look like I could not have explained. (Corpus: Brown.txt at position 7001574)

9. 193 The rubber and glass face mask slipped from Poet's forehead, bounced painlessly off Nick's chin, then disappeared. Poet twisted again and Nick's **knuckles** scraped on the air tank, ripping off the skin. (Corpus: Brown.txt at position 6749761)

→ contact: not specified (1/5)

4. 149 There was a thick, squashy crack of fist on flesh. Something hard grazed his **knuckles**. He put everything he had into the next and aimed down where the stomach ought to be. Rough cloth rasped his fist. (Corpus: Brown.txt at position 6778343)

Knuckle- as adjective (1/6)

+ -ED (1/1)

→ contact: 0 (1/1)

10. 150 Schiele's paintings are anything but pleasant. His people (see color) are angular and knobby-**knuckled**, sometimes painfully stretched, sometimes grotesquely foreshortened. His colors are dark and murky, and his landscapes and cityscapes seem swallowed in gloom. (Corpus: Brown.txt at position 1097719)

Conclusion : types of objets with sense 1 (literal sense)

(/6):

- contact: 0: 3/6

- concrete object: 2/6

- not specified: 1/6

2 Conceptual sense (5/11)

2.1 Metonymic use (3/5)

2.1.1 *Knuckle*- as a characteristic of a category (1/3)

Knuckle- as noun (in compounds included) (1/1)

Knuckle-S (1/1)

→ contact: 0 (1/1)

2. 141 Skinny Brown and Hoyt Wilhelm, the Flock's veteran **knuckleball** specialists, are slated to oppose the American League champions in tomorrow's 8 P.M. contest. (Corpus: Brown.txt at position 174890)

2.1.2 *Knuckle*- as an object in a compound (1/3)

Knuckle- as noun (1/1)

Knuckle/-S (1/1)

→ contact: 0 (1/1)

6. 156 ...public carousing and to acting the clown on the diamond; and a policeman asserted he had found a pair of brass **knuckles** in Art's pocket once when he had occasion to collar the Great First Baseman for some forgotten reason. (This made a sportswriter named Pegler wonder in print if Art had worn this armament when he defeated... (Corpus: Brown.txt at position 2859035)

2.1.3 “Part for whole” metonymy (1/3)

Knuckle- as noun (1/1)

Knuckle/-S (1/1)

→ contact: body-part (1/1)

7. 190 Ramey swung and caught the man just to the left of his mouth. It was a straight, solid, once-in-a-lifetime shot; he laid all four **knuckles** in between the man's cheekbone and his chin. (Corpus: Brown.txt at position 7238964)

Conclusion : types of objets with sense 2.1 (metonymic sense)

(/3):

- contact: 0: 2/3

- concrete object: 1/3

2.2 Interaction between metonymy and metaphor (2/5)

2.2.1 Metaphor from metonymy (2/2)

- **“Knuckle down to something” = *apply oneself vigorously* (1/2)**

Knuckle- as verb (1/1)

+ -S (1/1)

3. 177 It is disconcerting, nevertheless, to read in a labor weekly, "Perluss **knuckles** down to growers", and then to be confronted with a growers' publication which states, "Perluss recognizes obviously phony and trumped-up strikes as bona fide". (Corpus: Brown.txt at position 5467607)

- **“Knuckle under to something/someone” = *submit, yield* (1/2)**

Knuckle- as verb (1/1)

+ -ED (1/1)

11. 197 Oil-field workers were a rough-tough lot. How could he exert authority over them- make them toe the line, as he had to- if he **knuckled** under to this small-town clown? "I'll get around to it a little later", he mumbled desperately. (Corpus: Brown.txt at position 7046202)

APPENDIX 8: PALM

BNC (written) (1,007,000)

Literal sense: 5/10 = 50%

Conceptual sense: 5/10 = 50%

(▪) = types of object in contact with the “palm” of the hand

1 Literal sense (5/10)

1.2 = body-part (5/5)

Palm as noun (5/5)

Palm (5/5)

→ contact: body-part (4/5)

7. 150 But I was wrong. Now that we're lovers we're closer still." He laid the **palm** of his hand across Elisabeth's forehead and pressed back the curls that tumbled over her brow.(Corpus: BNC_Written.txt at position 4904976)

8. 155 Fiona slapped one **palm** off her forehead, then crossed her arms, looked away, out of the dark side window. "Fuck; did I swear? Oh fuck. Oh what a silly fucking cow I must fucking be."(Corpus: BNC_Written.txt at position 5809052)

10. 150 He took her hand but this time, instead of the formal kiss, he turned her hand over and kissed the **palm**, sending little ripples of pleasure coursing through her body. (Corpus: BNC_Written.txt at position 5073085)

11. 194 Daniel took Elisabeth's hands in his and turned them **palm** up.
"Look!" He showed her that like him she had a long life- line.
"And we shall have a child!" (Corpus: BNC_Written.txt at position 4906364)

→ contact : 0 (1/5)

1. 169 Every Tuesday morning you forgot your thimble, every Tuesday afternoon you held out your **palm** for the cut of the cane. Each caning made you forget more thoroughly. We did hemming, sheets and pillowcases; we did embroidery, tea cosies and gym bags and table napkins with loop stitch, knot stitch, lazy daisies... (Corpus: BNC_Written.txt at position 3720583)

2 Conceptual sense (5/10)

2.1 Metaphoric use (4/5)

2.1.1 = any entity having similar characteristics as the body-part “palm” (3/4)

- **palm tree (tree with long leaves) (3/3)**

Palm as noun (3/3)

Palm (3/3)

3. 177 Chorus:

Dance, sing, dawn-light is break-ing o-ver the sea.
Sing, sing, spark-ling the new day greets you and me.

Verses:

1 Hear how the dawn wind whis-per-ing moves all the **palm** leaves,
With silver and green in rice-fields bright patterns it weaves. (Corpus: BNC_Written.txt at position 525352)

4. 141 The Coel sits a-loft and greets the light, clear and strong his cry.

Repeat chorus.

2 Crossing the fields to-wards the well girls walking **palm** leaves,
With silver and green in rice-fields bright patterns it weaves. (Corpus: BNC_Written.txt at position 525646)

5. 138 That's something... a letter... (Reads). "As England is Denmark's faithful tributary... as love between them like the **palm** might flourish, etcetera... that on the knowing of this contents, without delay of any kind, should those bearers, Rosencrantz and Guildenstern, put to sudden death"... (Corpus: BNC_Written.txt at position 5580100)

2.1.2 The haptic metaphor (1/4)

- **Expression : “have something in the palm of one’s hand” = *have influence with sdy, control sth* (1/1)**

Palm as noun (1/1)

Palm (1/1)

6. 179 It had long been believed that he who held the Tower, held London in the **palm** of his hand. (Corpus: BNC_Written.txt at position 5098861)

2.2 Interaction between metonymy and metaphor (1/5)

2.2.1 Metaphor with metonymy (1/1)

Palm as noun (1/1)

Palm (1/1)

2. 191 He was appointed CB in 1945, and received also the American legion of merit and medal of freedom with silver **palm**. In 1947-8 he was chief of staff, Western Command; in 1949-50 he was again employed, briefly, on secret planning; and he retired in 1951. (Corpus: BNC_Written.txt at position 3538980)

3. Out of classification

9. 171 An Estonian history professor, Arnold **Palm**, said Balts regarded their status within the Soviet Union as " political, not juridical, and " by no means definitely established. (Corpus: BNC_Written.txt at position 2460889)

APPENDIX 9: FINGERTIP-(S)

BNC (written) (1,007,000)

Literal sense: $3/4 = 75\%$

Conceptual sense: $1/4 = 25\%$

(▣) = types of objects “touched with fingertips” or types of objects in contact with fingertips

1 Literal sense (3/4)

1.1 body-part (3/3)

Fingertips as noun (3/3)

Fingertips (3/3)

→ contact: body-part (1/3)

1. 160 When you remove your curlers or have finished tonging, loosen the curl by massaging your scalp with your **fingertips** and gently shaking your head, Don't brush your hair.
(Corpus: BNC_Written.txt at position 217392)

→ contact: 0 (1/3)

2. 164 We lay at ease, an arm loose round a waist,
Or side by side and touching at the hips,
As if we were two trees, bough grazing bough,
The twigs being the toes or **fingertips**.
(Corpus: BNC_Written.txt at position 5863915)

→ contact: concrete object (1/3)

3. 181 The sickening feel of woollen gloves being pulled onto your hands and hitting and blunting your **fingertips** so touch was lost. Ribboned panamas. Could you kill yourself by putting your fingers into the electric socket? Your fingernails were cut too short.(Corpus: BNC_Written.txt at position 3727422)

Conclusion : types of objets with sense 1 (*fingertip*- = literal sense)

(/3):

- body-part: 1/3

- contact: 0: 1/3

- concrete object: 1/3

2 Conceptual sense (1/4)

2.1 Metonymic use (1/1)

2.1.1 *Fingertip*- as a focused stage of an act (1/1)

Fingertips as noun (1/1)

Fingertips (1/1)

- ≡ concretely, really (opposite to in the imaginative world, vicariously) (1/1)

→ contact: not specified (1/1)

4. 190 ... she had a way of conjuring up places, in terms of their dimensions, that led those same children to explore their houses and fields blindfold; the dark world that they discovered with their **fingertips** was new to them -- but not frightening as they had supposed it to be. Nor did Rosa Jacobsen stick slavishly to one version of a tale; it was important to her to show how many angles a single event could be viewed from. (Corpus: BNC_Written.txt at position 4957175)

Conclusion : types of objects with sense 2 (conceptual sense)

(/1):

- not specified: 1/1

APPENDIX 10: WRIST

BNC (written) (1,007,000)

Literal sense: 5/7 = 71%

Conceptual sense: 2/7 = 29%

(▣) = types of objects in contact with the wrist(s)

1 Literal sense (5/7)

1.1 Body-part (5/7)

Wrist as noun (5/5)

Wrist-(s) (5/7)

→ contact: concrete object (2/5)

3. 173 GUIL takes a third coin, spins, it, catches it in his right hand, turns it over on to his left **wrist**, lobs it in the air, catches it with his left hand, raises his left leg, throws the coin up and under it, catches it and turns it over on to the top of his head, where it sits. ROS comes, looks at it, puts it in his bag. (Corpus: BNC_Written.txt at position 5454697)

4. 187 He heard himself moan, and felt with his hands: bedclothes. He was still wearing his own clothes, too. Here was his shirt on his **wrist**; there his trousers, sweater... shoes off. He flexed his feet, feeling his toes in his socks. His hands found the sides of the bed; it was a single, then. (Corpus: BNC_Written.txt at position 5738681)

→ contact: body-part (1/5)

1. 177 ...his head, his stockings fouled, ungartered and down-gyred to his ankle, pale as his shirt, his knees knocking each other... and with a look so piteous, he takes her by the **wrist** and holds her hard, then he goes to the length of his arm, and with his other hand over his brow, falls to such perusal of her face as he would draw it... (Corpus: BNC_Written.txt at position 5478592)

→ contact: substance (1/5)

2. 145 Mary took a perfume spray from her handbag, applied the scent to **wrists** and neck. (Corpus: BNC_Written.txt at position 5725526)

→ contact: 0 (1/5)

5. 149 Prentice clasped his hands in front of Rory's chin. Rory glanced at his **wrists**; thin and fragile looking. Prentice was still holding the little Lifeboat flag, twirling the pin between his fingers. (Corpus: BNC_Written.txt at position 5638449)

Conclusion: types of objects with sense 1 (*wrist-* = body-part)

(/5):

- concrete object: 2/5
- body-part: 1/5
- substance: 1/5
- 0 (no contact with the wrist): 1/5

2 Conceptual sense (2/7)

2.1 Metonymic use (2/2)

2.1.1 Characteristic of a category (2/2)

Wrist as noun (in compound included)

Wrist- (2/2)

→ contact: concrete object (2/2)

6. 183 FRIENDS fed Anthony Gray a load of codswallop during a fishing trip. His fishy tale of finding a missing gold **wrist**watch inside a cod's stomach appears to be a wind-up. (Corpus: BNC_Written.txt at position 273100)

7. 139 But friends say they found the watch hours earlier. One of them saw a tarnished **wrist**watch lying on the beach and decided to play a practical joke. "After Anthony caught the cod he returned to the car park because his car was blocking somebody in," explained a colleague at Sizewell B. (Corpus: BNC_Written.txt at position 273515)

APPENDIX 11: TOUCH

BNC (written) (1,007,000)

Literal sense : 38/144 = 26%

Conceptual sense : 106/144 = 74%

▣ = types of « touched » object

1 Literal sense (38/144)

1.1 Contact with the hand or another body-part (33/38)

Touch- as verb (29/33)

+ - ED (15/29)

→ person/body-part (11/15)

77. 160 Helen stared out at the plane. Its front door was very small and far away. Colonel Carter **touched** her arm. (Corpus: BNC_Written.txt at position 5990421)

78. 142 Elizabeth kissed the Duchess and **touched** her arm. (Corpus: BNC_Written.txt at position 5965792)

79. 129 The Duke smiled and **touched** her hand. (Corpus: BNC_Written.txt at position 5966559)

81. 167 Harald **touched** his head with his hand. There was blood in his hair. (Corpus: BNC_Written.txt at position 6001802)

82. 188 The robot watched the animal and **touched** it and measured everything. In the end it was ready to build a robot just likethat animal. (Corpus: BNC_Written.txt at position 5436576)

85. 132 ...try to make me get up but I could not get up, so they kicked me and stamped all over me from head to toe. Another two or three men **touched** my body all over with about 11 burning cigarettes, continuously for two hours. The Chinese used their belts so much that the metal buckle came off. They broke a chair over me. (Corpus: BNC_Written.txt at position 1997680)

89. 151 A moment later the slithery figure of the Town Clerk emerged from the Hall. He **touched** Pugwash on the arm. (Corpus: BNC_Written.txt at position 4992732)

92. 194 The Archbishop stood up to go, but then turned and **touched** the King's arm. "Please, Sir, think again. The Church will be against you." (Corpus: BNC_Written.txt at position 5955599)

96. 156 She put out a hand and **touched** the nearest arm, and the driver turned round quickly. "What are you doing here?" he shouted. (Corpus: BNC_Written.txt at position 5370272)

97. 184 She put out a hand and **touched** the prostrate woman -- and drew it away in distress. Bess Halidon was dead-- though not yet cold. (Corpus: BNC_Written.txt at position 5014891)

98. 184 The President of the Star Council said, "Where is this animal?"
"It's not an animal," I said. "It's a robot. But it looks just the same as a real animal."
"Where is it?" I **touched** the robot's stomach. "In there," I answered. (Corpus: BNC_Written.txt at position 5441478)

→ concrete object (2/15)

83. 163 He held his gun near his mouth and **touched** it gently with his lips as he waited. (Corpus: BNC_Written.txt at position 6009499)

95. 143 He knelt close by Rory. "Think the little bastard's over there." He pointed. He reached up, **touched** the gun Rory held. It was hard doing the roach one handed. "Put that down, man!" (Corpus: BNC_Written.txt at position 5674383)

→ material (concrete object but no physical delimitations) (2/15)

91. 192 After that I couldn't see inside any more; it was too bright. I was very frightened. I felt this fear deep inside me. Hee-Haw's head touched the ground. Hoo-Woo's head **touched** the ground too. I understood. This was their God! I understood because I felt the same fear as they did. (Corpus: BNC_Written.txt at position 5420369)

94. 157 After that I couldn't see inside any more; it was too bright. I was very frightened. I felt this fear deep inside me. Hee-Haw's head **touched** the ground. Hoo-Woo's head touched the ground too. I understood. This was their God! I understood because I felt the same fear as they did. (Corpus: BNC_Written.txt at position 5420334)

TO + Inf. (2/29)

→ person/body-part (2/2)

3. 160 Lewis and Verity kept exchanging looks, laughing at anything even remotely amusing each other said, sitting close together, finding a hundred small excuses to touch each other... (Corpus: BNC_Written.txt at position 5687577)

7. 171 "Not now," she said. "It's not dangerous any more." She walked on through the rain without stopping, and the young police officers walked beside her. They were afraid to touch her and they did not know what to do. (Corpus: BNC_Written.txt at position 6018515)

Touch Ø (3/29)

→ person/body-part (1/3)

137.137 Your capacity for trust made me wonder if perhaps... you, alone... (He turns on him suddenly, reached out a hand.) **Touch**. (ROS clasps his hand. GUIL pulls him up to him. More intensely) We have been spinning coins together since -- (He releases him almost as violently.) (Corpus: BNC_Written.txt at position 5453662)

→ concrete object (2/3)

1. 138 Now I could touch and smell things. There was a soft wind. It was cool. I smelt... strange new smells. I smelt living things. (Corpus: BNC_Written.txt at position 5413730)

12. 196 Erect a small fence around the pool consisting of short canes about 15 cm (6 in) high, linked together with a single strand of fishing line. This will not be visible to the heron, who will touch it with his legs. (Corpus: BNC_Written.txt at position 788467)

Touch/ + -S (3/29)

→ person/body-part (1/3)

101. 151 GUIL: Is that what people want?

PLAYER: It's what we do. (Small pause. He turns away. GUIL touches ALFRED on the shoulder.)

GUIL: (Wry, gentle) Thank you; we'll let you know. (The PLAYER has moved upstage. ALFRED follows.) (Corpus: BNC_Written.txt at position 5476638)

→ concrete object (1/3)

106. 162 ROS approaches "his" SPY doubtfully. He does not quite understand why the coats are familiar. ROS stands close touches the coat, thoughtfully... (Corpus: BNC_Written.txt at position 5534682)

→ substance (1/3)

28. 184 I knew all these stars were a long, long way away but they didn't look far away. They looked very close; I wanted to reach out my hand and touch them. (Corpus: BNC_Written.txt at position 5409656)

+ - ING (6/29)

→ person/body-part (5/6)

119. 155 Dreaming about you -- though not quite embraced

Always in contact felt however slight.

We lay at ease, an arm loose round a waist,

Or side by side and touching at the hips,

As if we were two trees, bough grazing bough,... (Corpus: BNC_Written.txt at position 5863813)

120. 153 "Oh no," Fiona said, touching Fergus's arm. (Corpus: BNC_Written.txt at position 5658790)

121. 163 I think he would have tore into Russell the next second, with his fists or his revolver, but now the Spencer was levelled at his belly; almost touching it. Early had his hand on his gun, but it had happened so fast even he couldn't do anything. (Corpus: BNC_Written.txt at position 6064327)

122. 138 I picked him up and kissed him until the screaming changed to crying. I said, " Another robot animal?" "Yes," the robot said, touching its stomach. (Corpus: BNC_Written.txt at position 5446488)

125. 183 Now can we go to bed?

3 Summer Villanelle

You know exactly what to do --

Your kiss, your fingers on my thigh --
I think of little else but you.
It's bliss to have a lover who,
Touching one shoulder, makes me sigh –
You know exactly what to do. (Corpus: BNC_Written.txt at position 5832661)

→ concrete object (1/6)

124. 178 She's trying fe tell yu,
Yu not listening,
Downstairs me flat is shaking,
De lights are crazy swaying,
An I can hear loudly each word yu are saying,
I feel dat her body **is touching** me ceiling,
An I see de man from inside yu revealing. (Corpus: BNC_Written.txt at position 5340339)

Touch- as noun (4/33)

1.1.2.1 + - ING (3/4)

→ person/body-part (2/3)

130. 138 ...conscious, materially far more rich and spiritually far more poor than the people who thronged the place, where just by that intensity of **touching**, that very sweating crowdedness, you felt more apart, more consigned to a different, echoing place inside yourself. (Corpus: BNC_Written.txt at position 5666433)

128. 148 When the Farmer has finished he sits down and goes to sleep and begins counting to 100. The Thief then "steals" the "plants" **by touching** them. The "plants" run off and hide, as does the Thief. (Corpus: BNC_Written.txt at position 491499)

→ concrete object (1/3)

118. 155 ...erotic drawing was not on the back of an envelope" he wrote, "but a week or so's work on a decent piece of stone... Lord how exciting! and not merely **touching** and seeing but actually making her. I was responsible for her very existence and her every form came straight out of my heart." (Corpus: BNC_Written.txt at position 1238232)

Touch (1/4)

→ concrete object (1/1)

15. 131 TIES emblazoned with Santas and Rudolphins with red noses that light up **at the touch of** a button and seductive pictures of Marilyn Monroe are all part of Tie Rack's campaign strategy for Christmas. (Corpus: BNC_Written.txt at position 1406347)

Conclusion : types of objects with sense 1.1 (/33):

- person/body part: 22/33
- concrete object: 8/33
- material (no physical delimitations) : 2/33
- substance: 1/33

1.2 Contact between two objects (5/38)

Touch- as verb (5/5)

+ -ING (3/5):

→ concrete object (3/3)

126. 160 The curtains bowed in a few yards away, almost **touching** the window-sill, the movement like a wave. (Corpus: BNC_Written.txt at position 5648729)

127. 139 Iron the interfacing to the wrong side of the heading allowance, with its lower edge level with the marked top of the curtain and its ends **touching** the creaseline of the sides. Turn the top 2cm(¾in) down over the interfacing, then pin and machine it in place (fig. 36). (Corpus: BNC_Written.txt at position 624128)

+ -ED (2/5)

→ substance (1/2)

90. 158 A few minutes later the spaceship was falling towards a planet covered with tall buildings. Many of the buildings **touched** the clouds. (Corpus: BNC_Written.txt at position 5438767)

→ choses concrètes, objets réels (1/2)

70. 184 Schumacher in a Benetton tried to force his way by but Senna pulled across, their wheels **touched** and the German spun out of the race. (Corpus: BNC_Written.txt at position 400589)

Conclusion : types of objets with sense 1.2 (= contact between 2 objects) (/5):

- concrete object: 4/5
- substance: 1/5

Conclusion : types of objets with sense 1 (/38):

- person/body-part : 22/38
- concrete object: 12/38
- material (with no physical delimitations): 2/38
- substances: 2/38

2 Conceptual sense (106/144)

2.1 Metonymic use (31/106)

2.1.1 *Touch* as power (3/31)

Touch as noun (3/3)

Touch (3/3)

→ 0 (action more important than the touched object) (3/3)

24. 156 We pray for those who mourn, and for those who are sad for any reason. Lord, may each one know the gentle touch of your restoring hand. (Corpus: BNC_Written.txt at position 1059920)

140. 138 We pray for those who are frustrated in their search for work and employment. Lord, may they know your peaceful guidance and your calming touch. We pray for those who have work, but find it a pressure and a source of stress. Lord, fill them with your peace. (Corpus: BNC_Written.txt at position 1073943)

20. 187 So we pray for those who are battered and bruised because of such differences, and we ask that each one may know your touch of peace. We pray that your body on earth may be a healing body, praying and working so that the church is united in your service. (Corpus: BNC_Written.txt at position 1075152)

Conclusion: types of objects with sense 2.1.1 (/3):

- 0 (3/3)

2.1.2 *Touch* as a characteristic of a category (12/31)

Touch- as adjective (12/12)

Touch (12/12)

→ material (implicit) (12/12)

50. 183 The stiffened cover can be fitted to the board either with **touch-and-close** fastener; or with drawing pins inserted through pockets on webbing tape, stitched to the back or tacked directly onto the board with steel tacks... (Corpus: BNC_Written.txt at position 627077)

51. 148 The blinds can be fitted on to a wooden batten with **touch-and-close** fastener for easy removal, and are operated by pulling up cords which pass through rings on the back of the blind, then through screw-eyes on the underside of the batten. (Corpus: BNC_Written.txt at position 655655)

- 52.187 Cover the batten and attach the opposite side of touch-and-close fastener, as Method 1. (Corpus: BNC_Written.txt at position 666131)
53. 156 At the top of the blind, turn $1.5\text{cm}(\frac{5}{8}\text{in})$ to the wrong side and pin and tack the soft side of the touch-and-close fastener over the raw edge. (Corpus: BNC_Written.txt at position 664950)
54. 133 Finally, to attach the pelmet to the board, either attach the firm side of the touch-and-close fastener to the top edge of the board with steel tacks, if using the first method above, or place a strong drawing pin through each pocket on the tape and into the top edge of the board...(Corpus: BNC_Written.txt at position 631657)
55. 143 Depending on your method of fixing, either: pin and machine the soft side of touch-and-close fastener to the right side of the lining along the top, $2.5\text{cm}(1\text{in})$ in from the cut edge; or pin a length of webbing tape in the same position turning in the ends of the tape. (Corpus: BNC_Written.txt at position 630802)
56. 173 Touch-and-close fastener to the width of the finished blind, plus a cleat to hold the cord. (Corpus: BNC_Written.txt at position 658925)
57. 150 Attach the remaining side of touch-and-close fastener to the front edge of the batten with steel tacks or along the top back edge of batten if fitting outside a reveal. (Corpus: BNC_Written.txt at position 661678)
58. 164 Touch-and-close fastener to the width of the finished blind. (Corpus: BNC_Written.txt at position 663885)
59. 155 For fixing your pelmet, allow either enough touch-and-close fastener, or $4\text{cm}(1\frac{1}{2}\text{in})$ deep webbing tape to fit the length of the board plus two returns. (Corpus: BNC_Written.txt at position 628886)
60. 161 Fix the batten in place with angle brackets, then attach the blind with touch-and-close fastener. (Corpus: BNC_Written.txt at position 662074)
64. 147 Pin, tack then machine the soft side of touch-and-close fastener over the raw edges. (Corpus: BNC_Written.txt at position 660994)

[Conclusion: types of objets with metonymic sense 2.1.2 \(/12\):](#)
 - material (implicit): 12/12

2.1.3 Touch as a focused stage of an act(16/31)

Touch as verb (6/16)

TO + Inf. (1/6)

→ person (1/1)

14. 152 (same as 2) So now, she thought, I am married to a man whose touch disgusts me, and who anyway does not seem to want to touch me. She looked at Fergus's dim reflection, distorted in the glass, then tried to focus on her own image. Can he find me as repellent as I find him? I can't look that bad, can I? (Corpus: BNC_Written.txt at position 5817480)

+ -ED (2/6)

→ concrete object(implicit) (2/3)

75. 178 On the half-hour, however, Stortford scored an opportunist try when winger Ridgewell intercepted a pass from Cummings to his centre and touched down between the posts. (Corpus: BNC_Written.txt at position 437982)

67. 189 In the 27th minute Kamara, on loan from Luton, found Hendrie and squared for Wilkinson to put in a fierce shot which Baker touched over the bar. (Corpus: BNC_Written.txt at position 245749)

+ -EN (1/6)

→ person (1/3)

80. 194 "Fiona!" Fergus shouted, knuckles white on the steering wheel.

"For God's sake, there's nothing to have your nose rubbed in! Julie's just a friend. I haven't touched her!"

"You didn't have to, she was touching you," Fiona said, voice quiet, looking away from Fergus, out to the darkness of the loch. (Corpus: BNC_Written.txt at position 5813421)

Touch Ø (1/6)

→ material (1/1)

5. 143 He never spoke. Perhaps he had forgotten how to speak. He wouldn't touch food or water. (Corpus: BNC_Written.txt at position 5431211)

Touch + -ING (1/6)

→ person (1/1)

129. (same as 2) 139 "For God's sake, there's nothing to have your nose rubbed in! Julie's just a friend. I haven't touched her!"

"You didn't have to, she was touching you," Fiona said, voice quiet, looking away from Fergus, out to the darkness of the loch. (Corpus: BNC_Written.txt at position 5813467)

Touch as noun (9/16)

Touch (9/9)

→ person/body-part (1/9)

2.156 So now, she thought, I am married to a man whose touch disgusts me, and who anyway does not seem to want to touch me. (Corpus: BNC_Written.txt at position 5817420)

→ 0 (2/9)

30. 195 The sickening feel of woollen gloves being pulled onto your hands and hitting and blunting your fingertips so **touch** was lost. Ribboned panamas. (Corpus: BNC_Written.txt at position 3727436)

139. 167 The local Evening Institute, at a reasonable price, offered to teach anyone who asked, **touch typing**. (Corpus: BNC_Written.txt at position 2731120)

→ concrete object (6/9)

25. 145 Instead, they snatched extra time in the 80th minute when Cork got a **touch** onto Glyn Hodges' cross and as a defender attempted to clear, the ball was driven against Ward and back past a helpless Mimms. Corpus: BNC_Written.txt at position 485053

11. 172 Braintree started to control the midfield in the second half and only **the final touch** in the circle let them down. They were finally rewarded when Wadforth fired them in front from a short corner but they momentarily relaxed and Pelicans replied almost immediately with a well-worked move from a long corner... (Corpus: BNC_Written.txt at position 424704)

33. 181 With relegation to Division Two almost certain Ipswich might well relax and find **their goal- scoring touch** which has proved so elusive so far. (Corpus: BNC_Written.txt at position 294828)

115. 161 Three minutes after the interval the Kent side found the target when a lob from Hunt caught Cheesewright off his line and Leslie was on hand to apply **the final touch**. In injury time Erith made absolutely certain of victory when Battram turned the ball in from close range as the Braintree defence was caught out. (Corpus: BNC_Written.txt at position 267680)

116. 176 Hendrie fired across the face of goal and Wilkinson, sprinting towards the far post, was unable to get **the vital touch**. (Corpus: BNC_Written.txt at position 246837)

134. 192 For once, Steve Titcombe and Mark Hett saw precious little action out on the wings but full- back Dyble was outstanding when joining the line and fly-half Nick Gregory was a master at finding **touch**. It was Dyble who broke the deadlock with a penalty in the first minute and centre Kelly Wagland came within a whisker of scoring... (Corpus: BNC_Written.txt at position 354324)

Touch as adjective (1/16)

UN- + Touch + -ED (1/1)

→ concrete object (implicit) (1/1)

84. 168 Contrary to speculation, the house has not been lent out to a public exhibition since 1925, but remains where it was designed to stand, the only completely **untouched** Lutyens house in existence, a permanent record of a way of life between the wars. (in the general sense of the term = "physically" unchanged)(Corpus: BNC_Written.txt at position 2970979)

Conclusion: types of objets with metonymic sense 2.1.3 (/16):

- concrete object: 9/16

- person: 4/16

- 0: 2/16

- material 1/16

Conclusion: types of objets with metonymic sense 2.1 (/31):

- material 13/31
- concrete object: 9/31
- 0: 5/31
- person: 4/31

2.2 Metaphoric use (51/106)

2.2.1 The haptic metaphor (36/51)

2.2.1.1 *Touch* and knowledge (21/51)

Touch- as noun (21/21)

Touch (21/21)

6. 174 For seventhly you consume two bottles of wine between you.

For eighthly he stays the night.

For ninthly you can not wait to see him again.

For tenthly he does not get in touch for several days. (Corpus: BNC_Written.txt at position 5837219)

27. 194 "I'm sorry you think what you do about Julie. As I have tried to tell you, she was the wife of an old friend and I've kept in touch since she got divorced —" (Corpus: BNC_Written.txt at position 5809786)

31. 179 People now expect to be in touch when they want. I believe many people increasingly want their news when it is convenient for them -- when they get in from work, when they've picked up the children from school... (Corpus: BNC_Written.txt at position 1289678)

32. 179 First, the news will be there when our audience wants it – to cover major events when they happen -- or give an up-date on whatever is new that hour. People now expect to be in touch when they want. Our research shows that. I believe many people increasingly want their news when it is convenient for them -- (Corpus: BNC_Written.txt at position 1269254)

34. 182 Me belly swell

Me separate dirt from grain

Me looking amazed at a plane

Me in Africa a Squatter

Me at home a Refugee.

Me watching me.

Sitting comfortably

In a hi-tech city

In touch wid de Modern World

In touch wid old frens (Corpus: BNC_Written.txt at position 5341605)

35. 168 Me looking amazed at a plane

Me in Africa a Squatter

Me at home a Refugee.
Me watching me.
Sitting comfortably
In a hi-tech city
In touch with the Modern World
In touch with old friends (Corpus: BNC_Written.txt at position 5341637)

36. 176 Has consideration been given to ways of keeping in touch with nurses who leave? (Corpus: BNC_Written.txt at position 1570376)

37. 165 Keeping in touch with all local voluntary groups, clubs and local organisations in order to obtain opportunities to speak about the work of the health service and the employment opportunities. (Corpus: BNC_Written.txt at position 1536141)

38. 175 The Democratic Party chairman, Mr Ron Brown, said that "there has not been such a decision so out of touch with American values since the sale of arms to the Ayatollah. This is real politik run amok. (Corpus: BNC_Written.txt at position 2512224)

39. 154 There were few exceptions to the rule that the peoples of Siberia were illiterate before the Russians came. Only the west Siberian Tatars, as Muslims in touch with Bukhara and other Islamic centres of Central Asia, were familiar with Koranic Arabic, while the Buryat Mongols east of Lake Baikal used classical Mongolian, written since the thirteenth century in a vertical script... (Corpus: BNC_Written.txt at position 3299455)

40. 169 Rev Kenneth had got in touch with ENSA. We had the most extraordinary auditions on Saturday mornings at the little Dawes Road Church. (Corpus: BNC_Written.txt at position 2786162)

41. 150 A friend of Probst, H. Gruber and Pastor Martin Niemoller, Hartwell worked to aid the escape of Jews from Germany. This brought him into touch with George Bell, then Bishop of Chichester, and with John Marsh, the Congregational theologian, who invited him to Oxford. (Corpus: BNC_Written.txt at position 2637689)

42. 183 Particular effort should be made to keep in touch with nurses who have left employment and who may be able to return at some future date. (Corpus: BNC_Written.txt at position 1572780)

43. 141 He said it was ruled by the Id-- which is selfish, the Ego -- which keeps the Id in check and in touch with reality, and by the Super-ego, which insists that social expectations and duties are fulfilled. (Corpus: BNC_Written.txt at position 3827586)

44. 191 ...scholars working alone do not have as much contact with computer-learned people as they used to do. This means they are less in touch with software developments. Hence, if they get interested in designing their own software, scholars may spend their time reinventing last year's wheel. (Corpus: BNC_Written.txt at position 4090981)

45. 162 "I don't want to go home," said Elizabeth sadly, as Dad drove away. "I love Malta so much."
"Never mind," said Dad. "Now you have a friend here you can keep in touch with the island. One day you may come back to see Victoria, and perhaps she could visit us in England!" (Corpus: BNC_Written.txt at position 516176)

46. 153 Nasser was to be a figure not only of his time, but of his social background as well. His family was one generation removed from peasants, and in close touch with the small village of Beni Moor near Assiut in Upper Egypt, where as a boy Nasser spent his holidays. (Corpus: BNC_Written.txt at position 3861914)

47. 170 Are other countries' programme buyers more in touch with their audience than ours? Or were they simply concerned at the number of rules that were being broken by the programme's makers? (Corpus: BNC_Written.txt at position 1093433)

48. 180 We have introduced lap top computers into Ireland and the USA for our sales team, enabling them to keep in touch with their customers and their own offices. Customers can there be assured that their requests are being dealt with quickly and efficiently -- often on the spot. (Corpus: BNC_Written.txt at position 1911098)

66. 162 Identify a teacher in the Continuing Education Department with responsibility for arranging and coordinating the events aimed at keeping nurses in touch. (Corpus: BNC_Written.txt at position 1574834)

141. 188 ...the single Euro-market, promising "sun, sex and sangria" – and more bikinis than Baywatch . It was supposed to give viewers an all-year-round holiday feeling. As such it was badly out of touch with the recessionary mood of the Nineties. (Corpus: BNC_Written.txt at position 1093251)

2.2.1.2 *Touch* and attention (10/51)

Touch- as verb (8/10)

Touch/+ -S (4/8)

100. 182 Above all, Plomer merely touches on the Elizabethan cadence and diction. His text hints at the periods and utterances of Gloriana's England, but it quite avoids the "half-timbered". (Corpus: BNC_Written.txt at position 1311402)

103. 142 This exemplifies one of the enigmas of the contemporary art world, and it touches on the problem of what decides our likes and dislikes in art. (Corpus: BNC_Written.txt at position 1116811)

104. 155 Just as, in his murder scene, Berg heightens the tension by building his music round a single repeated note (B), so here Britten touches on the same procedure, using a held F sharp for the momentous dialogue between Ellen and Balstrode (which also partly explains the curiously inert harmonies of Ellen's song "Embroidery in childhood"). (Corpus: BNC_Written.txt at position 1351068)

110. I don't want to go into it, Ken, it would only complicate matters. It's nothing that directly touches you." "What about Fiona?" Kenneth said, voice low, staring at his brother. "Did it touch her?" (Corpus: BNC_Written.txt at position 5801330)

Touch Ø (1/8)

4. 160 In the best organisations, quality should touch every aspect of the business. (Corpus: BNC_Written.txt at position 1909888)

+ -ED (2/8)

88. 154 Now she says she can't get beyond the facts and maybe one follow-up question. Domestic radio (in contrast to the World Service) barely touched on the run up to the cancellation of Yeltsin's trip to Japan, so when it happened we didn't know why, we didn't know how important it was. (Corpus: BNC_Written.txt at position 1287329)

8. 178 I don't want to go into it, Ken, it would only complicate matters. It's nothing that directly touches you." "What about Fiona?" Kenneth said, voice low, staring at his brother. "Did it touch her?" Rory looked away, across the loch. He shrugged. "Look, Ken, it isn't something you'd benefit by knowing, all right? (Corpus: BNC_Written.txt at position 5801425)

+ -EN (1/8)

71. 147 It has touched briefly on a number of activities which all contribute to better staff utilisation. It has been assumed there is a labour force to manage. (Corpus: BNC_Written.txt at position 1630433)

Touch- as an adjective (2/10)

UN + Touch + ABLE (2/2)

61. 155 IN East Germany two men, formerly regarded as untouchable pillars of the old regime, have, rightly or wrongly, become the focus of over- zealous and sometimes bizarre persecution by the legal authorities and an indignant public. (Corpus: BNC_Written.txt at position 2333231)

62. (same as 61) 189 IN East Germany two men, formerly regarded as untouchable pillars of the old regime, have, rightly or wrongly, become the focus of over- zealous and sometimes bizarre persecution by the legal authorities and an indignant public. (Corpus: BNC_Written.txt at position 2239890)

2.2.1.3 Touch and change (5/51)

Touch as adjective (3/5)

UN + touch + -ED (3/3)

69. 186 ...accounting and financial management, said families faced higher bills following the Chancellor's decision to extend VAT to domestic fuel, over-index excise duties, leave tax thresholds untouched and raise national insurance contributions. (Corpus: BNC_Written.txt at position 3962904)

76. 159 A BONUS payment for investments left untouched for a year is on offer from Birmingham Midshires Building Society. (Corpus: BNC_Written.txt at position 1458462)

99. 148 Only the section pertaining to a party shall be completed by that party. All other sections shall be left untouched. (Corpus: BNC_Written.txt at position 4027717)

Touch- as verb (2/5)

+ -ED (1/2)

68. 194 Only last year the shares touched 79p -- the point at which Sugar sold 43m shares and pocketed £34m. (Corpus: BNC_Written.txt at position 1422455)

+ -EN (1/2)

93. 164 Their fear of Communism and the domino effect, had touched the entire country, and the US citizens felt it was up to their country to sort out the "Reds" once and for all. (Corpus: BNC_Written.txt at position 3835174)

2.2.2 *Touch* and emotion/mental state (10/51)

Touch- as adjective (6/10)

+ -EN (4/6)

86. 177 Anne, who was heart-free despite her sometimes extravagant claims, was surprised to see tears coursing down Joan's face. Her heart touched on the instant by her friend's distress, she put an arm through hers and led her back to the palace. (Corpus: BNC_Written.txt at position 5075390)

72. 151 "By the Holy Rood, I swear it!"

Her emotion this time was not prompted by grief for her mother --but by the seriousness of the moment. Her heart was touched by what the duchess had offered her and by what had been asked of herself in return. So many benefits would she receive, not least the companionship of the vivacious and warm-hearted Anne Mowbray... (Corpus: BNC_Written.txt at position 5024590)

74. 155 I remember also the reaction of one or two of Ben's older contemporaries, Constant Lambert and Patrick Hadley, who were particularly touched by this quartet when they first heard it at the dress rehearsal. JC: And it's wonderful stuff to sing. (Corpus: BNC_Written.txt at position 1377094)

87. 159 The source said Mr Gorbachev "was touched on the raw by the criticism of his moves to make peace with the West, and offered to resign if the full Central Committee agreed with Mr Melnikov. (Corpus: BNC_Written.txt at position 2402524)

+ -ING (2/6)

117. 172 ...and was saddened and grieved and distressed by the fact that everybody turned against him at the end. PP: And the duet at the end of the Prologue is a very touching moment. (Corpus: BNC_Written.txt at position 1374889)

123. 175 "I beg you to reconsider, sir," Buckingham urged the protector. A touching little scene ensued." Edward's tone was highly satirical. "The protector closed his eyes and bowed his head, as if seeking Divine guidance. (Corpus: BNC_Written.txt at position 5192125)

Touch- as verb (3/10)

Touch/+-S (2/3)

9. 191 You have heard him speak,
Reading his work to the surprise of guests
Who find that dinner was a stratagem:

Poems in which the attracted turn to pests
If they **touch** him before he touches them,
In which the celebrant of an appetite... (Corpus: BNC_Written.txt at position 5878499)

107. 156 Reading his work to the surprise of guests
Who find that dinner was a stratagem:
Poems in which the attracted turn to pests
If they touch him before he **touches** them,
In which the celebrant of an appetite... (Corpus: BNC_Written.txt at position 5878519)

TO + Inf. (1/3)

10. 180 But I have no doubt that all are known to God." And here the pastor paused for his certainty to touch his audience and arouse their own. "Perhaps, one day, one of you will attempt something that will merit inclusion in our Book. Who knows?" (Corpus: BNC_Written.txt at position 4879839)

Touch- as adverb (1/10)

Touch + -ING + -LY (1/1)

132. 181 She joined the Old Vic Company (which later was to become the Sadler's Wells Opera) in the 1923-4 season as a member of the chorus. Gifted with a **touchingly** beautiful voice of the lyrico-spinto variety (with that quality described by Italians as morbidezza) she became the leading soprano of the company, singing a wide variety of roles... (Corpus: BNC_Written.txt at position 1359790)

2.2.3 Touch and Space metaphor (1/51)

Touch- as verb (1/1)

Touch Ø (1/1)

13. 133 Thus death has been ever close to me -- so close that it seemed to me at times that I could reach out and **touch** it. I try therefore to think only of life and youth --I could not speak lightly of death as do you, my lord." (Corpus: BNC_Written.txt at position 5070266)

2.2.4 *Touch* and small quantity (4/51)

Touch- as noun (4/4)

Touch (4/4)

16. 147 The traditional brass pole will add a **touch** of classical elegance to a room. These are available in all manner of finishes from bright brass to antique gold and antique brass. (Corpus: BNC_Written.txt at position 568937)

17. 192 The medium carries the paint evenly, so that just a **touch** of colour can be introduced to the medium to make a transparent glaze layer. (Corpus: BNC_Written.txt at position 1191240)

18. 195 General situation: Parts of Scotland and Northern Ireland will have a **touch** of frost at first, but most of England and Wales should be frost free. It will be another cold, but largely dry day across the country. (Corpus: BNC_Written.txt at position 3871698)

21. 148 For a **touch** of real extravagance, a swag and tail would give a rich and sumptuous finish to curtains in an elegant, formal setting. (Corpus: BNC_Written.txt at position 541677)

2.3 Interaction between metaphor and metonymy (24/106)

2.3.1 Metaphor with metonymy (22/24)

Touch- as noun (22/22)

RE- + Touch + -ING (1/22)

→ concrete object (implicit) (1/1)

131. 157 ...but there was a definite risk of lifting small particles of colour as it was taken off and my aim was to minimise the need for **retouching**. It took several layers of slightly thinned gold acrylic paint to get the effect I wanted. (Corpus: BNC_Written.txt at position 1172360)

(= touch up)

Touch/ +-S (21/22)

→ abstract (3/21)

108. 184 Surprise jump in output gives Budget boost STRONGER-than-expected factory production revealed yesterday provided another ray of hope for Chancellor Norman Lamont as he put the final touches to the Budget. (Corpus: BNC_Written.txt at position 3928707)

109. 150 Friday Mother Jacobsen and any bits and pieces we've forgotten. That leaves Saturday to spend here. We can put the finishing touches to your programme. I'd like to hear you do Ich Grolle Nicht again and also Erbkönig – they make me shudder! (Corpus: BNC_Written.txt at position 4899210)

63. 155 He rows out alone into the estuary, and waits there --waits for what?
How quiet this writing is: you might say how dreary. Yet how sure is its touch; and how vivid that estuary near Aldeborough. Not great poetry, by any means; but it convinces me that Crabbe and Peter Grimes and myself do stop beside an opening sluice (Corpus: BNC_Written.txt at position 1325029)

→ concrete object (implicit) (8/21)

29. 132 Once complete, your festive wreath can be hung from any surface and will add the perfect finishing touch to your home at Christmas time THE EVER-CHANGING GARDEN (Corpus: BNC_Written.txt at position 80269)

65. 183 Roller blinds offer a good deal of scope through colour and fabric combinations, from floral patterns to bold geometric prints. An individual finishing touch can come from your choice of shaped hemline, which could be angular, castellated or scalloped. (Corpus: BNC_Written.txt at position 542595)

112. 168 Assistant Editor, Hellena Barnes cut a dash with her scissors; Art Editor Sarah Vernot got going with her trusty scalpel and Editor Sue Rouse added the finishing touches. The result was a superb stand which really attracted the crowd during the week! (Corpus: BNC_Written.txt at position 208825)

111. 166 They had blue cushions on them, but I thought they'd register better just white, so I glanced round the paper adding various different coloured touches-- light on dark and dark on light -- to give the impression of light coming through the leaves. (Corpus: BNC_Written.txt at position 1200688)

102. 166 They can be gathered or pleated with most headings, provided the depth of the heading is in proportion to the depth of the valance. Individual touches can be added by shaping the hemline, or by binding the top and bottom edges with fabric in a contrasting or toning colour. (Corpus: BNC_Written.txt at position 632702)

135. 169 A frill with the edges bound in a contrasting or toning colour adds a further individual touch, making the curtains a little more special. (Corpus: BNC_Written.txt at position 540608)

136. 153 Shaped hemlines are just one way to add a decorative touch. Plain fabrics can be decorated, for instance, with appliqué, or rows of contrasting ribbon. (Corpus: BNC_Written.txt at position 650240)

19. 160 The hood-dryer makes a welcome return, according to Jeanne Braa, Creative Director for Paul Mitchell Systems USA. "The set gives hair that touch of glamour -- it's moveable yet versatile". (Corpus: BNC_Written.txt at position 180278)

→ substance (2/21)

26. 167 Jennefer Cheyne at Cheynes of Edinburgh used Sienna from the Wella Colour Touch range of long- lasting semi-permanent colourants to add warmth to long hair. Wella High Hair Bolumising Mousse was applied to create soft curls. (Corpus: BNC_Written.txt at position 196057)

114. 151 It took several layers of slightly thinned gold acrylic paint to get the effect I wanted, then, as the final touch, I worked over the parts I had previously painted red, now visible only as a dull tonal value within the gold, using well thinned films of the different pearlescent colours. (Corpus: BNC_Written.txt at position 1172483)

→ 0 (8/21)

133. 162 Now, with the help of his expert advice, you too can achieve the professional touch. (Corpus: BNC_Written.txt at position 230134)

22. 173 Here, apart from the humorous touch of the Crown Jewels, there is adequate space to house the 2,518 pieces of the silver gadroon, thread and shell pattern dinner service for eighteen people. (Corpus: BNC_Written.txt at position 2992670)

19. 160 The hood-dryer makes a welcome return, according to Jeanne Braa, Creative Director for Paul Mitchell Systems USA. "The set gives hair that touch of glamour -- it's moveable yet versatile". (Corpus: BNC_Written.txt at position 180278)

22. 173 Here, apart from the humorous touch of the Crown Jewels, there is adequate space to house the 2,518 pieces of the silver gadroon, thread and shell pattern dinner service for eighteen people. (Corpus: BNC_Written.txt at position 2992670)

23. 144 All in the pause of marble signify
A strength so lavish she can limit it.
She will not let her pet dog catch her eye
For dignity, and for a touch of wit. (Corpus: BNC_Written.txt at position 5898823)

113. 166 I think back to the scented summer night
We talked between our sleeping bags, below
A molten field of stars five years ago:
I was so tickled by your mind's light touch
I couldn't sleep, you made me laugh too much... (Corpus: BNC_Written.txt at position 5892582)

138. 170 The first-half of the concert concluded with Eine Kleine Nacht Musik. This performance needed more pace, a lighter touch throughout from the orchestra and much greater clarity from the first violins. (Corpus: BNC_Written.txt at position 1110250)

105. 194 Admiral Croft, for instance, uses "we" and its cases more than ten times as frequently as Lady Catherine de Burgh. It is by tiny touches such as these -- though only a stylometrist would consciously notice them -- that Jane Austen builds up the picture of one character's clubbability, and the other's insolence of rank. (Corpus: BNC_Written.txt at position 4086602)

2.3.2 Metaphor from metonymy (2/24)

Touch- in idiom: as verb (1/2)

Touch Ø(1/1)

49. 176 Yo Bowy
Lets boogie.
Sell yu soul
Prostitute yu Art
Be a Black
An White
Minstrel.
Wave yu hands Bowy
Show yu teeth
Strut dat funky ting
Sing Bowy, sing.
Boss won't touch yu
Wid a barge pole (Corpus: BNC_Written.txt at position 5317488)

Touch- in idiom: as adjective (1/2)

+ -ED (1/1)

73. 176 Then Joseph proposed. I was alarmed. I was alone on a mountain with an unpredictable and completely un-Yorkshire person who appeared to have been touched by the sun. I declined. I didn't know him well enough, I mumbled. I hoped it wouldn't hurt his feelings. (Corpus: BNC_Written.txt at position 3374476)

APPENDIX 12: PUSH

BNC (written) (1, 007, 000)

Literal sense: 64/117 = 55%

Conceptual sense: 53/117 = 45%

(▪) = types of “pushed” objects

(▣) = force or movement direction

1 Literal sense (64/117)

1.1 make something/someone move by using physical force with the hand or part of the body (59/64)

Push- + preposition : prepositional verb (24/59)

+ - ED (11/24)

→ concrete object (6/6):

40. 160 "I thought I was going to miss you!" she shouted, and **pushed** a letter into his hand, through the window, as the train moved away. (Corpus: BNC_Written.txt at position 5364197)

65. 147 "Oh dear! Is Miss Danziger dying, Boo-Boo?" The Colonel did not stop to reassure his wife, but rose neatly, **pushed** his chair under his table and with swift, disciplined steps reached the terrace no more than a couple of yards behind Miss Danziger. (Corpus: BNC_Written.txt at position 4865916)

71. 136 The children put all the presents in the pram, and at three o'clock they **pushed** it to the Perks's little yellow house. (Corpus: BNC_Written.txt at position 5381294)

84. 187 "But you don't want to hear all that!" And so saying, she **pushed** the jug of lemonade towards Elisabeth and waited for her to speak. (Corpus: BNC_Written.txt at position 4953038)

92. 161 Next, they **pushed** two of the flags into heaps of stones between the lines, then Bobbie and Phyllis each took one, and Peter took the other two. (Corpus: BNC_Written.txt at position 5374318)

45. 193 He **pushed** at the door again. (Corpus: BNC_Written.txt at position 5740598)

→ person (5/10):

62. 187 But Winfield took her arm and pulled her up the stairs.

"You're my prisoner," he shouted at her, "and you're not going to leave." Then he **pushed** her into the bathroom and locked the door. (Corpus: BNC_Written.txt at position 5949210)

64. 133 He shouted angrily in a voice that sounded American, but the hijacker hit him and then **pushed** him to the front of the plane with his machine gun. (Corpus: BNC_Written.txt at position 5987594)

72. 186 "Get into the car."

Someone **pushed** Karen into a big white car. (Corpus: BNC_Written.txt at position 5923738)

74. 184 Hee-Haw's head touched the ground. Hoo-Woo's head touched the ground too. I understood. This was their God! I understood because I felt the same fear as they did.

Hoo-Woo **pushed** me towards the light. (Corpus: BNC_Written.txt at position 5420495)

80. 192 Russell asked to ride with Mendez, saying they could talk about things.

"Talk," Mendez said. "You can't hear yourself." He **pushed** Russell towards the coach. "Go on. See what it's like." (Corpus: BNC_Written.txt at position 6093588)

+ - EN (5/24)

→ concrete object (5/10):

35. 182 You can, as a matter of course, help to protect yourself from electric shocks by using a circuit breaker. This is an attachment on the pump cable which is **pushed into** the plug socket of the domestic supply like an ordinary plug. (Corpus: BNC_Written.txt at position 708864)

67. 150 From these can be gathered a handful of needle- thin stuff that can be **pushed into** a pocket while you collect slightly thicker material. (Corpus: BNC_Written.txt at position 795013)

68. 173 Special sachets of aquatic plant fertilizer are currently available which can be merely **pushed into** the container beside the plants. (Corpus: BNC_Written.txt at position 763951)

69. 196 This hinge, when released, allows the front of the drawer to come up, laying the gates, balustrade and trees rigidly horizontal over the hedges and flower beds. The whole drawer can then be **pushed into** the basement. (Corpus: BNC_Written.txt at position 3032069)

70. 162 The train came very, very fast. The lines began to shake and the two flags that were pushed into the heaps of stones soon fell over, but Bobbie ran across and picked up one of them. (Corpus: BNC_Written.txt at position 5374784)

Push/+ -S (5/24)

→ concrete object (4/5):

18. 134 Cut a small hole at the bottom point and **push** the green covered pencil or stick through the hole for about 2cm (Fig 3). (Corpus: BNC_Written.txt at position 507523)

23. 137 Repeat this procedure with the apples if they do not already have stems and **push** them into the cane... (Corpus: BNC_Written.txt at position 79390)

24. 193 3 Wrap florists' wire around the base of the pine- cones to create individual stems. Group them in twos or threes, securing with green tape and carefully **push** them into the cane... (Corpus: BNC_Written.txt at position 79767)

25. 196 2 Cut sprigs of cherry laurel and yew from their main branches ensuring you leave a long stem and securely **push** them into the cane ring until the circle is complete... (Corpus: BNC_Written.txt at position 79126)

→ substance (1/5):

20. 155 In the same way the beetle rolled along its ball of dung, so the sun god was thought to create and **push** the sun across the sky. The daytime course of the sun was perceived in a number of images. The morning sun was Khepri either as a scarab or a scarab-headed man... (Corpus: BNC_Written.txt at position 982967)

+ - ING (3/24)

→ implicit (action highlighted rather than pushed object) (1/3):

107. 188 During spawning the male fish chases the female around the pool and amongst the submerged plants, brushing and **pushing** furiously against her flanks. (Corpus: BNC_Written.txt at position 774877)

→ body-part (1/3):

109. 186 What did Dad say when he saw Daffy Duck **pushing** his face through the letter box? (Corpus: BNC_Written.txt at position 5242221)

→ concrete object (1/3):

115. 132 They saw three men **pushing** some steps across the tarmac. The men put the steps outside the plane door and then went back again. (Corpus: BNC_Written.txt at position 6010216)

Push- as simple verb (17/59)

+ - ED (10/17)

→ concrete object (6/10):

37. 171 Elisabeth approached the longhouse along a grassy footpath, her feet making no discernible sound. Yet, even before she **pushed** open the gate, she saw old Mother Jacobsen look up and the cat on her lap rise and turn before folding itself into a crescent preparing to go back to sleep.(Corpus: BNC_Written.txt at position 4949900)

38. 185 It was set in a trim garden girdled by white painted paling; if not God's cottage, certainly not his manor. And as she **pushed** high towered over her from a huge stoneware pot... (Corpus: BNC_Written.txt at position 4871430)

41. 163 Svend Larsen **pushed** a pile of papers to one side of his desk, took a platter of open sandwiches from the top of his bookcase and set it down between Elisabeth and himself. (Corpus: BNC_Written.txt at position 4844329)

42. 147 My spaceship landed. I put on a spacesuit, went outside and moved to the big round door. I pulled and **pushed** and hit it. At last something moved and the door opened. (Corpus: BNC_Written.txt at position 5412585)

75. 164 Hoo-Woo **pushed open a door** in the wall and we went through. (Corpus: BNC_Written.txt at position 5419537)

76. 165 Inside the room Susan was screaming. Karen **pushed open the door**. (Corpus: BNC_Written.txt at position 5909622)

→ person (4/10):

34. 185 Carl sat down in his seat, very slowly. The bearded man watched him all the time. He **pushed** Harald with his foot.

"Search him," he said to the girl. (Corpus: BNC_Written.txt at position 5996198)

53. 170 I **pushed** Buff as he tried to shoot Hoo-Woo. The laser gun burnt a hole in the plastic wall, but it didn't hit Hoo-Woo. (Corpus: BNC_Written.txt at position 5429493)

89. 153 The train came towards them, and the noise got louder and louder. Then it was screaming past, and they could feel the hot air and smell the smoke. They **pushed themselves flat** against the tunnel wall. (Corpus: BNC_Written.txt at position 5390492)

95. 193 Again there were about 30 soldiers. Some used electric sticks, some beat us over the head with handcuffs, some kicked us, some pulled and **pushed** us, some beat us with rifles. (Corpus: BNC_Written.txt at position 1996375)

Push/ + - S (3/17)

→ person (2/3):

11. 145 "Getting in the way a bit there. Sorry."

"Don't you push me!" she said, slapping his shoulder. She hit him again. "Don't you ever dare **push** me again!" (Corpus: BNC_Written.txt at position 5808691)

12. 190 She sat there, mouth open. He seemed to understand the silence and glanced over, a weak smile flickering on his face. "Sorry," he said. "Getting in the way a bit there. Sorry."

"Don't you **push** me!" she said, slapping his shoulder. She hit him again. "Don't you ever dare push me again!" (Corpus: BNC_Written.txt at position 5808607)

→ concrete object (1/3):

1. 150 It would have been nice to have unicorns. (The TRAGEDIANS are six in number, including a small BOY (ALFRED). Two pull and **push** a cart piled with props and belongings. There is also a DRUMMER, a HORN-PLAYER and a FLAUTIST. The SPOKESMAN (" the PLAYER") has no instrument. (Corpus: BNC_Written.txt at position 5463969)

+ - ING (2/17)

→ person (2/2):

106. 187 There were three soldiers for every nun; they tied our hands and took us to a small room, two soldiers **pushing** each nun. All of us were beaten very severely. (Corpus: BNC_Written.txt at position 1996013)

108. 174 TIt was right up to his mouth when Lamarr Dean nudged him, reaching out and **pushing** him a little, and the mescal spilled over the Apache's chin and down the front of his vest. (Corpus: BNC_Written.txt at position 6062849)

+ -EN (1/17)

→ person (1/1):

51. 194 Basingstoke full-back Richard Rowledge levelled the scores with a penalty of his own, but Sudbury were back in the lead after Dyble's initial break was continued by Hett with Tim Newcomb being pushed before receiving the pass. (Corpus: BNC_Written.txt at position 354716)

TO + INF. (1/17)

→ substance (1/1):

3. 136 "We talked," Rory said awkwardly, using his fork to push bits of lettuce around his plate. "He told me things, but... I don't want to go into it, Ken, it would only complicate matters. It's nothing that directly touches you." (Corpus: BNC_Written.txt at position 5801162)

Push- + adverb: phrasal verb (16/59)

+ - ED (8/16)

→ person (7/8):

47. 151 She **pushed away from** him. "Ferg..." she said, breathless, lip-stick smeared. "Fiona," Fergus moaned, clutching her. "I want you! I need you!" (Corpus: BNC_Written.txt at position 5659717)

48. 183 I kissed right back and she **pushed away**, laughing. "Wo, Prentice!" she shouted over the noise. (Corpus: BNC_Written.txt at position 5621600)

59. 183 "Come away from the door! Quick!" The girl unlocked the handcuffs (= *menottes*) and **pushed** Harald and Carl back to their seats. (Corpus: BNC_Written.txt at position 6010615)

61. 177 He **pushed** her away with his left hand, back into her seat. (Corpus: BNC_Written.txt at position 5808355)

73. 139 I do not like her. I will never like her. You can live here, but Wallis cannot."
"My brother", Edward said later, "pushed me away like a dog. I will never forget what he did. And after that I decided that I didn't want my family. They didn't want Wallis, and so I didn't want them." (Corpus: BNC_Written.txt at position 5965057)

93. 194 He pushed up out of the chair, his eyes on Mr. Mendez. (Corpus: BNC_Written.txt at position 6078709)

88. 180 Dominated Brazilian star Jose-Luis Barbosa pushed the Scot in the back on the opening back straight, but McKean remained undeterred as he dominated proceedings from the front. (Corpus: BNC_Written.txt at position 375474)

→ body-part (1/8):

63. 176 This force was applied by those long, black-nyloned legs, and though most of the pressure was provided by her left limb, some residual effort pushed her right foot down as well, and on each occasion we speeded up, just momentarily, as her amply-soled Doc Marten pressed against the accelerator. (Corpus: BNC_Written.txt at position 5593056)

+ -EN (4/16)

→ substance (1/4):

43. 141 Thinly washed colour was applied, then blended with the brush and pushed around until it felt right. The brush has great control and enables fine details to be painted with thin or thick paint. (Corpus: BNC_Written.txt at position 1176499)

→ person (1/4):

52. 183 It could also set a precedent for other governments -- like Thailand and Malaysia -- which have both pushed boat people back out to sea. (Corpus: BNC_Written.txt at position 2465562)

→ body-part (1/4):

90. 182 ...covered with small honeyed
warts by which the seely fly
is lured to sloping
pastures at the trumpet's lip
till grazing downhill
the fly finds the underbrush
of hairs casually pushed through
has closed behind –
(Corpus: BNC_Written.txt at position 5875951)

→ abstract (1/4):

79. 167 In the second-half the Dragons had a strong wind at their backs and almost made good use of it straight away as a long ball found McClean and his shot was pushed round by Westwood.
(Corpus: BNC_Written.txt at position 266110)

Push/+ -S (3/16)

→ abstract(1/3):

19. 166 If fitting to a track pull the spaces between the pleats forward, but if fitting to a pole, gently **push** the spaces **back**. Position the folds in the fabric which form below each pleat by running your fingers down the length of the curtain. (Corpus: BNC_Written.txt at position 621719)

→ concrete object (1/3):

100. 135 And he **pushes** the blade **in** up to the hilt. The PLAYER stands with huge, terrible eyes, clutches at the wound as the blade withdraws... (Corpus: BNC_Written.txt at position 5582111)

→ person(1/3):

99. 179 ...last confronts his mother and in a scene of provocative ambiguity -- (A somewhat oedipal embrace) begs her to repent and recant -- (He springs up, still talking.) The King -- (He **pushes forward** the POISONER/KING tormented by guilt -- haunted by fear --decides to despatch his nephew to England -- and entrusts his undertaking to two smiling accomplices -- friends – courtiers... (Corpus: BNC_Written.txt at position 5532915)

+ - ING (1/16)

→ person (1/1):

117. 185 Colchester played up the hill in the first half and began solidly, their pack (**inanimate?**) **pushing** Walden **back** onto the defensive. After just eight minutes a strong drive by centre Pete Manning was stopped short of the line but the ball was quickly moved for scrum-half Watts to score. (Corpus: BNC_Written.txt at position 451625)

Push as noun (in compound included) (2/59)

Push/ + -S (2/2)

→ concrete object (1/2):

102. 136 ...and although the pike was normally eighteen feet long and made of ash, there are records of women engaging successfully in **pike-pushes**. The women in the ranks were generally accustomed to hard manual labour with scythes and ploughs and would have had the physical strength and tenacity to wield weapons. (Corpus: BNC_Written.txt at position 3822305)

→ implicit (= person but action in focus) (1/2):

30. 141 The Ipswich forwards were out-scrummaged by the solid Stortford pack and it was from a **push-over** try after 20 minutes of the second half that Stortford scored their next points. (Corpus: BNC_Written.txt at position 438772)

Conclusion : types of objects with sense 1.1 (= make sdy/sth move) (/59) :

- concrete object: 25/59
- person/body-part: 24/59
- substance, material: 3/59
- body-part : 3/59
- implicit: 2/59
- abstract : 2/59

1.2 Move oneself past or through a group using physical force with part of the body (3/64)

Push as noun (2/3)

+ - ING (2/2)

→ implicit (2/2) (= person but action in focus):

104. 185 As the train stood on the platform we did not know if we would ever board it. Then came the order from one of the station staff for us to do so, and there was really **pushing** and place seeking. (Corpus: BNC_Written.txt at position 2829984)

116. 165 But they all tightened their belts and after a great deal of grunting and squeezing and pulling and **pushing** they emerged, one by one, into the moonlit churchyard. (Corpus: BNC_Written.txt at position 5006693)

Push + preposition: as a prepositional verb (1/3)

TO + - INF. (1/1)

→ implicit (1/1):

22.143 Stripped to the waist, one dug while the other stacked. Their barrow full they straightened up and turned to **push** their way towards the road. (Corpus: BNC_Written.txt at position 4909979)

Conclusion : types of objects with sense 1.2 (= make sdy/sth move oneself through a group) (/3):

- implicit: 3/3

1.3 Press something (or part of something) using physical force with the hand (2/64)

Push as simple verb (2/2)

Push (+ -S) (1/2)

→ concrete object (1/1):

101. 174 GUIL slowly puts the point of the dagger on to the PLAYER's hand, and **pushes**... the blade slides back into the handle. (Corpus: BNC_Written.txt at position 5583218)

+ -ED (1/2)

→ concrete object (1/1):

81. 160 The lift boy **pushed the button** for the twentieth floor and the button for full speed. (Corpus: BNC_Written.txt at position 5291366)

Conclusion : types of objects with sense 1.1 (= make sdy/sth move) (/2) :

- concrete object: 2/2

Conclusion : types of objects with sense 1. (= literal sense) (/64):

- concrete object: 27/64
- person: 24/64
- implicit: 4/64
- substance: 3/64
- body-part: 3/64
- abstract: 2/64

2 Conceptual sense (53/117)

2.1 Metonymies (10/53)

2.1.1 *Push-* as a focused stage of an act (8/10)

Push- + adverb: as phrasal verb (5/8)

+ - EN (4/5)

CONCRETE FORCE DIRECTION: FORWARD; BACK(value = subjective physical position); NORTHWARDS; SOUTHEAST; IN (value = objective physical location)

→ abstract (3/4):

57. 181 While the main west-to-east movement in the occupation of Siberia was accomplished by the first half of the eighteenth century, the frontiers of the Russian Empire continued to be **pushed forward** in various directions, thus bringing more peoples under its control. (Corpus: BNC_Written.txt at position 3313257)

58. 165 perpendicular to this sheet will decay, as the trajectory returns to the attractor; a small displacement along the sheet will remain, as a trajectory is effectively **pushed forward** in time; and a small lateral displacement will grow in time. (Corpus: BNC_Written.txt at position 4737309)

54. 149 ...critics argue that this is insufficient to offset what Transport 2000 describes as "a growing perception that the centre of economic gravity will be **pushed ever further south east**." (Corpus: BNC_Written.txt at position 2941438)

→ person (1/4):

49. 151 The Russians were **pushed back northwards** to the Stanovoi mountains, where the frontier fixed in 1689 by the Treaty of Nerchinsk was recognized until the nineteenth century. (Corpus: BNC_Written.txt at position 3310980)

+ -ING (1/5)

→ substance (1/1):

110. 145 There was sufficient daylight **pushing in** from outside to enable Elisabeth to take her bearings, but she needed the light of her torch to find the entrance to the narrow middle chamber. (Corpus: BNC_Written.txt at position 4920124)

Push- + preposition: as prepositional verb (2/8)

+ - EN (2/2)

CONCRETE MOVEMENT DIRECTION: INTO; AT (value = physical location)

→ person (1/2):

56. 192 As a result of this intrusion the Nganasans were **pushed farther north into** the tundra, and a lasting enmity between them and the Dolgans was created. (Corpus: BNC_Written.txt at position 3336159)

→ material (1/2):

46 158 She remembered watching peasants clear the unworked peat bog. First, they cleared away the living grasses that valiantly **pushed at the surface** and then the dried stuff from the previous year. (Corpus: BNC_Written.txt at position 4911194)

Push- as simple verb (1/1)

+ - ING (1/1)

→ abstract (1/1):

113. 182 Thick blood,
Wood splinters,
Glass splinters an tears
An him never want nu charity,
No ambulance,
St Johns man talks in vain,
Blood hides de cut from de eye,
Glass splinters **pushing** pain.
Not one police number came.
(Corpus: BNC_Written.txt at position 5327693)

Conclusion : types of objects with sense 2.1.1 (= *focused stage of an act*) (/8):

- abstract: 4/8
- person: 2/8
- substance: 1/8
- material: 1/8

2.1.2 *Push* as characteristic of a category (2/9)

Push as adjective (2/2)

Push (2/2)

→ concrete object (2/2):

5. 164 The passenger lift, first entered from the right- hand lobby in the ground floor hall, serves the three main floors, and is controlled by a fully automatic set of **push buttons** at each floor so that the car can be called or dispatched from any of the main floors. (Corpus: BNC_Written.txt at position 3020995)

6. 149 The goods or service lift is entered from the backstairs area behind the passenger lift and is controlled by a set of three "semi-automatic **push buttons**, the third being for stopping the lift at any desired point. (Corpus: BNC_Written.txt at position 3021242)

Conclusion : types of objects with sense 2.1.2 (= characteristic of an object) (/2):

- concrete object: 2/2

Conclusion : types of objects with sense 2.1 (= metonymic sense) (/9):

- abstract: 3/9

- person: 2/9

- concrete object: 2/9

- substance: 1/9

-material: 1/9

2.2 Metaphors (42/53)

2.2.2 The haptic and space metaphors (31/42)

- cause to (21/31)

Push- + preposition: prepositional verb(14/21)

+ -ED (6/14)

ABSTRACT MOTION DIRECTION: INTO (value = circumstance); FROM/TO, TO, THROUGH (value = position, value)

32. 152 FALLING land and property values and restructuring **pushed** construction group George Wimpey £112.4 million into the red last year. (Corpus: BNC_Written.txt at position 3968818)

78. 153 The average passenger spent 3% less time at the airports but the numbers are 4m ahead at 44m in the half year to September. This **pushed** profits from £151m to £200m. (Corpus: BNC_Written.txt at position 1433372)

86. 175 Soaps to detergents giant Unilever lost 28p to 1081p after disappointing third-quarter figures which **pushed** the nine-month result from £1.3bn to £1.4bn. (Corpus: BNC_Written.txt at position 1428268)

85. 192 A mini-buying stampede **pushed** the leading FT-SE 100 Index to 2741.8, a jump of 32.2 points as investors piled into the market to snap up bargains. (Corpus: BNC_Written.txt at position 1511388)

87. 137 Meanwhile, a 9% profits leap by Anglian Water to over £100m **pushed** the price to 477p, up 10p. (Corpus: BNC_Written.txt at position 1444444)

82. 192 A rise in high-street spending gave a mini boost to confidence and this **pushed** the FT-SE 100 Index through the psychological 2,700 level. (Corpus: BNC_Written.txt at position 1474738)

+ INF. (3/14)

ABSTRACT MOTION DIRECTION: OVER (value = position, value); INTO (value = circumstance); INTO (value = mental state)

15. 186 Tobacco-to-insurance group BAT reveals third quarter figures on Wednesday. A much improved performance from its insurance arm Eagle Star should **push** profits for the nine months over the £1bn mark. (Corpus: BNC_Written.txt at position 1403914)

21. 135 That could **push** the United States, with a pre- invasion force of about 13,000 troops in Panama responsible solely for protecting the canal, into the unwanted role of a long-term army of occupation.(Corpus: BNC_Written.txt at position 2650527)

9. 144 The 17.5pc VAT rate on fuel bills would **push** families already " on the edge" into despair. (Corpus: BNC_Written.txt at position 3943151)

+ -EN (2/14)

ABSTRACT MOTION DIRECTION: INTO (value = circumstance); TOWARDS (value = entity)

36. 160 In the construction sector, George Wimpey found itself **pushed** much deeper into the red to a loss of £112.4 million last year due to falling property values. (Corpus: BNC_Written.txt at position 3966842)

55. 172 Irrigation was improved, including the building in 1902 of the first dam at Aswan, while the economy was pushed ever more towards the monocrop culture of cotton, primarily for export to British textile mills in Lancashire. (Corpus: BNC_Written.txt at position 3854021)

Push (1/14)

ABSTRACT MOTION DIRECTION: TO (value = position, value)

16. 175 Hopes **push** shares to a record high SHARES surged to a record high last night amid growing evidence that Britain is at last poised for economic recovery. (Corpus: BNC_Written.txt at position 3903349)

TO + INF. (1/14)

ABSTRACT MOTION DIRECTION: TO (value = position, value)

17. 156 THE measures should be enough to **push** shares to an all-time high. We now have the lowest rates in Europe and rock bottom inflation. (Corpus: BNC_Written.txt at position 1454691)

+ - ING (1/14)

ABSTRACT MOTION DIRECTION: TO (value = position, value)

111. 147 Brewer Marston Thompson plateaued at 225p after **pushing** midway profits to £10.07m, up £3m. (Corpus: BNC_Written.txt at position 1508177)

Push- + adverb: as phrasal verb (7/21)

Push/+ - S (2/7)

ABSTRACT FORCE DIRECTION: UP (value = position, value)

14. 167 Buyers **push** prices up (Corpus: BNC_Written.txt at position 3897566)

27. 153 The majority believe that it is up to the Government to kick- start the housing market again. But a rates cut could hit the pound and **push up** inflation -- the main worry for Bank of England Governor Robin Leigh-Pemberton. (Corpus: BNC_Written.txt at position 1448580)

+ -ED (2/7)

ABSTRACT FORCE DIRECTION: AHEAD(value = position, value)

77. 189 International waste management company Attwoods **pushed** profits ahead more than 11 per cent in the six months to January after a good performance from key sectors of its US business. (Corpus: BNC_Written.txt at position 3965005)

83. 192 A cut of 1% to 7% could be on the cards in tomorrow's autumn statement and this **pushed** the FT-SE 100 Index ahead by over 19 points to 2714.6. (Corpus: BNC_Written.txt at position 1444049)

+ INF. (1/7)

ABSTRACT FORCE DIRECTION: UP(value = position, value)

28. 178 Project supplies firms like Nissan and Toyota from outlets in Northern England, where it employs an extra 200 staff. MINUS:Increase in petrol prices, which will **push up** Project's transport costs. (Corpus: BNC_Written.txt at position 3944526)

+ -EN (1/7)

ABSTRACT FORCE DIRECTION: UP(value = position, value)

94. 139 In addition, the creation of the UDC has **pushed up** property prices in the area, making it even more difficult for the residents. (Corpus: BNC_Written.txt at position 3800986)

+ - ING (1/7)

ABSTRACT FORCE DIRECTION: AHEAD (value = position, value); BACK (value = position)

114. 139 Pre-tax profits soared from £7.8m to £26.1m, **pushing** shares ahead 3p to 221p. (Corpus: BNC_Written.txt at position 1517138)

- move abstractly (4/31)

Push- + adverb: as phrasal verb (3/4)

+ -EN (1/3)

ABSTRACT FORCE DIRECTION: ASIDE (value = position, organization)

44. 158 An so-called progress breeds pollution
Yu can buy a share in de illusion
Or yu can gu to school an study de Green solution,
Fe years Green tings hav been **pushed aside**
Now we're going fast on a downward slide
(Corpus: BNC_Written.txt at position 5335480)

TO + INF. (1/3)

ABSTRACT FORCE DIRECTION: ASIDE (value = physical state)

2. 189 He and Richard, very different in temperament, inevitably quarrelled a good deal. Richard had not lost his sense of fun --his ability to **push aside** the vexations of the moment and look to better things ahead. (Corpus: BNC_Written.txt at position 5210927)

+ -ING (1/3)

ABSTRACT FORCE DIRECTION: BACK (value = position)

105.135 improving existing products, we also devote more than 50 per cent of our Research and Development resource to developing new products, **pushing back the frontiers** of technology. (Corpus: BNC_Written.txt at position 1904943)

Push- + preposition : as prepositional verb (1/4)

+ -EN (1/1)

ABSTRACT MOTION DIRECTION: TO (value = position, organization)

91. 175 Vocal opposition, such as it is, has come from people who are retired from public life, who have been purged or **pushed to one side** by the Ceausescu leadership, or who have been forced to make do with a moral posture on key issues, registering their dissent, but no more. (Corpus: BNC_Written.txt at position 2666392)

- *force to, compel to, convince to (4/31)*

Push- + preposition : as prepositional verb (1/4)

+ -EN (1/1)

96. 164 Rightwingers in his own party, however, fear that by embarking on a dialogue under US auspices, Israel will eventually be **pushed**, despite its own reservations, into talks with the PLO and advance the creation of an independent Palestinian state. (Corpus: BNC_Written.txt at position 2325008)

Push- + adverb: as phrasal verb (1/4)

+ - EN (1/1)

ABSTRACT FORCE DIRECTION: THROUGH (value = entity)

39. 191 Ecoglasnost, the dissident environmental movement, is considering running independent "green candidates if the elections are **pushed through**. (Corpus: BNC_Written.txt at position 2484510)

Push- as noun (in compound included) (1/4)

Push (1/1)

ABSTRACT FORCE DIRECTION: OVER (value = mental state)

118. 173 When it comes to a present, I'm stuck.
If you weren't far away
On your own special day,
I could give you a really nice glass of lager.
Love Story
I thought you'd be a **pushover**
I hoped I wouldn't hurt you. (Corpus: BNC_Written.txt at position 5834360)

Push- as simple verb (1/4)

60. 158 "After that my car gave a big flick in the fast corners and it was difficult to drive. I **pushed hard** and I picked up some places, but then in the bad conditions Lehto caught me and I went off into the wet and that was it. (Corpus: BNC_Written.txt at position 40303)

- *postpone (until), put back (to)(Brit.), defer (until) (meeting) (1/31)*

Push- + adverb: as phrasal verb (1/1)

+ -ED (1/2)

ABSTRACT FORCE DIRECTION: BACK (value = activity)

50. 137 We went in the direction of Stoke Poges and recited as much of the " Elogy as we could remember. Then she kindly **pushed back**, as I was rather tired. (Corpus: BNC_Written.txt at position 2853699)

- *progress (1/31)*

Push- + adverb: as phrasal verb (1/1)

Push (1/2)

ABSTRACT FORCE DIRECTION: FORWARD (value: activity)

10. 159 They have a vital role to ensure all the major strands of thought, of opinion, of policy are fairly covered. These programmes need to question and **push forward** the agenda of the news programmes. (Corpus: BNC_Written.txt at position 1265230)

2.2.2 The haptic metaphor (11/42)

- *cause to, force to, compel to, convince to (idea, plan...) (9/11)*

Push- as adjective(3/9)

Push (3/3)

8. 168 Accordingly, a number of migration theories and general statements have been formulated over the years, as shown in Table5.1. Out of these, **push factors** 2 and 5 and pull factors 1, 2 and 3 have been most important for depopulation in the western world, and pull factors 4 and 6. have been most important for people moving from urban to rural areas. (Corpus: BNC_Written.txt at position 4152399)

29. 185 Finally, Mabogunje (1970,16) has proposed a systems approach which rejects the push-pull approach of Table 5.1 and sees rural-urban migration no longer as a linear, uni-directional, **push-and-pull**, cause-effect movement but as a circular, interdependent, progressively complex, and self-modifying system in which the effect of changes in one part can be traced through the whole of the system. (Corpus: BNC_Written.txt at position 4153499)

31. 195 Finally, Mabogunje (1970,16) has proposed a systems approach which rejects the **push-pull** approach of Table 5.1 and sees rural-urban migration no longer as a linear, uni-directional, push-and-pull, cause-effect (Corpus: BNC_Written.txt at position 4153391)

Push- + preposition: as prepositional verb(3/9)

INF. (1/3)

CONCRETE MOTION DIRECTION: OUT OF (value = physical location)

7. 169 The UDC seems to be intent on creating inner city science parks and industrial estates, which would **push** even more people out of the city -- already the young people are moving out, leaving the middle-aged and the elderly. (Corpus: BNC_Written.txt at position 3800636)

TO + -INF. (1/3)

CONCRETE MOTION DIRECTION: OUT OF (value = physical location)

13. 180 What impact the British offer would have on the brain drain, which is expected to **push** over 10 per cent of the population out of the colony before China's 1997 takeover, was not clear. (Corpus: BNC_Written.txt at position 2572461)

+ - ING (1/3)

CONCRETE MOTION DIRECTION: ONTO (value = physical location)

103. 175 ...make matters worse the scheme included an irrigation scheme on common land used by the women and with the help of the government, the men gained exclusive use of these lands, **pushing** women onto inferior, poorer quality land where they had to continue to try and grow the traditional rice. The women ended up having to negotiate everything through their husbands... (Corpus: BNC_Written.txt at position 3777738)

Push- + adverb : as phrasal verb (1/9)

+ - ING (1/1)

CONCRETE FORCE DIRECTION: OUT (value = physical location)

112. 177 In addition, because there are only a very few, small sites available for redevelopment, new investors would be pushing out present occupiers if the development were to be economically viable. (Corpus: BNC_Written.txt at position 3800452)

Push- as simple verb (1/9)

+ - ED (1/1)

66. 141 His philosophy took a long time to be appreciated, partly because he never **pushed** his own work, which was subsequently overshadowed by that of Wittgenstein. He was a quiet, modest man, easy going and uninhibited... (Corpus: BNC_Written.txt at position 3450825)

Push- as noun (1/9)

Push (1/1)

26. 138 Warsaw Pact nations take advantage of our February meeting in Ottawa, where we will launch the Open Skies negotiations, to give a further **push** to the Vienna talks on conventional forces. I invite Allied governments to consider establishing a Nato Arms Control Verification Staff. (Corpus: BNC_Written.txt at position 2476016)

- *go over* (2/11)

Push- as a simple verb(2/2)

Push (1/2)

4. 148 **Push** boundaries, take risks, and interweave unique colour schemes with subtle variations. Become really involved, so that you experience in full the profound emotional depths of colour. (Corpus: BNC_Written.txt at position 1135948)

+ -EN (1/2)

97. 160 She had gone down with all hands in the North Atlantic. Her luck had been **pushed**, most probably of necessity, too far. All on board were Britons, from all our islands. (Corpus: BNC_Written.txt at position 2821717)

2.3 Interaction between metonymy and metaphor (1/53)

Push as noun (1/1)

+ -ER (1/1)

98. 164 Painful bomb
Questionable bomb
Reactionary bomb
Sad bomb

Taxable bomb
U.N. bomb
Valuable bomb
Wicked bomb
Xenophobia bomb
Your bomb
Zymotic bomb
A bomb **pusher** writes

We have Big Bombs (Corpus: BNC_Written.txt at position 5303840)

APPENDIX 13: HANDLE

BNC (written) (1,007,000)

Literal sense : 7/68 = 10%

Conceptual sense: 61/68 = 90%

▣ = types of “handled” objects

1 Literal sense (7/68)

1.1 *Tenir, manipuler quelque chose* (7/7)

Handle as noun (5/7)

+ -ING (5/5)

→ material (4/5)

44. 139 Corded fittings enable curtains to be drawn without **handling** or soiling the fabric. (Corpus: BNC_Written.txt at position 565575)

51. 162 An alternative to a cording set is a draw rod, which is a simpler and cheaper method of operating curtains without **handling** them. (Corpus: BNC_Written.txt at position 570709)

38. 159 Time spent examining and **handling** fabric for yourself is time well spent as there is no substitute for experience. (Corpus: BNC_Written.txt at position 555363)

39. 150 CUTTING OUT AND **HANDLING** FABRICS

Look at your fabric carefully before starting to cut out, as there are several points to observe. (Corpus: BNC_Written.txt at position 597089)

→ concrete object (1/5)

46. 157 Carefully nip off older flowers on cyclamen and African violets, leaving no stalks which can rot. Take care when **handling** *Primula obconica* or wear a pair of cotton gloves to avoid any possible skin rash. (Corpus: BNC_Written.txt at position 127110)

Handle as verb (2/7)

Handle/ + -S (2/2)

→ concrete object (2/2)

20. 189 The behavioural aspect of browsing as part of the information-seeking activity is far from understood. Studies undertaken to observe browsing in the shelf consultation show that the user **handles** a limited number of items in the process and ultimately selects but a few. (Corpus: BNC_Written.txt at position 4547853)

59. 167 Women could drum and **handle** pistols and the soldiers'swords were not particularly long or heavy and would have presented no problems. (Corpus: BNC_Written.txt at position 3822011)

Conclusion : types of objects with sense 1 (literal sense) /7 :

- material : 4/7

- concrete objects : 3/7

2. Conceptual sense (61/68)

2.1 Metonymic use (33/61)

2.1.1 “Handle” as object (17/33)

Handle as noun (16/17)

Handle/ + -s (16/16)

→ *handle* = concrete objet; contact with hands (16/16)

1. 172 Seal the box with tape, then pad and cover it, attaching a **handle** across the top. (BNC_Written.txt at position 576127)

2. 166 The Art Case is made of sturdy plastic, complete with carrying **handle** and contains all the materials you need for acrylic painting. (Corpus: BNC_Written.txt at position 1189239)

3. 170 Scratches around the brass door handle and lock bear witness to use over the years. (Corpus: BNC_Written.txt at position 3036531)

23. 178 "The man who had been a rich merchant, and who was now a beggar, had to make brooms for the town. He had a little hut with a stone floor, and a supply of **handles** and twigs. But to teach the man a lesson they had given him a supply of twigs that were old and weak; poor twigs for making brooms with. (Corpus: BNC_Written.txt at position 5720205)

26. 135 "Yes; they're big bits of rubber — old tyres—attached to wooden **handles**, for beating out fires on the ground. (Corpus: BNC_Written.txt at position 5719517)

27. 177 He trod the corridors again, looking for an unlocked door. Maybe the maids would have left some of the rooms open, if there was nobody staying in them just now. He tried a few handles. The only open door led to a broom cupboard. (Corpus: BNC_Written.txt at position 5654383)
28. 134 Then, just as the executioner was about to pull the handle he yelled out: "Wait a minute! I see what's sticking it!" (Corpus: BNC_Written.txt at position 5291131)
57. 188 The Queen was particularly delighted with these models and asked for two dozen to be sent to Buckingham Palace. Made by Brigg Umbrellas, with a handle matching one of the Brigg walking sticks in the King's wardrobe. (Corpus: BNC_Written.txt at position 3003627)
58. 193 Lachy supported Fergus's shoulders with one knee while he twisted the handle of a darkly-stained wooden door. It swung open to darkness. (Corpus: BNC_Written.txt at position 5737205)
60. 151 For gentle backcombing and tousling, Alan used the Denman Vent brush. It's a lightweight brush which features a sculpted handle, providing maximum grip for controlled styling. (Corpus: BNC_Written.txt at position 185889)
61. 196 But by the time he'd cleaned the floor to his satisfaction, the broom had worn right away, right down, to the handle. (Corpus: BNC_Written.txt at position 5720684)
64. 155 (He holds his hand out for the dagger. GUIL slowly puts the point of the dagger on to the PLAYER's hand, and pushes... the blade slides back into the handle. The PLAYER smiles, reclaims the dagger.) (Corpus: BNC_Written.txt at position 5583265)
66. 194 When the first of them was brought to be executed, he placed his neck on the block and the executioner pulled the handle to release the blade. (Corpus: BNC_Written.txt at position 5290548)
67. 146 The brush has been developed for easel painters; each one has a long, silver-grey handle which makes it ideal for easel painting when you need distance from the canvas. (Corpus: BNC_Written.txt at position 1174120)
68. 168 Six eye-catching, gold brushes have been added to Kent's professional range of hair tools. Each brush has a heat-resistant handle with a rubber-neck grip for firm hold while you style. (Corpus: BNC_Written.txt at position 174359)
69. 175 "What was the job, dad?"
 "He had to make brooms."
 "Brooms?"
 "Old fashioned brushes made from bundles of twigs tied to a wooden handle. You know up in the forest you sometimes see those things for beating out fires?" (Corpus: BNC_Written.txt at position 5719318)

Handle as adjective (1/17)

+ -ED (1/1)

→ **handle = object ; contact with the hands** (1/1)

14. 154 A large pair of cutting scissors are essential. They should be kept in a sharp condition, otherwise they will be no use at all. Bent-handled shears are best of all, as the blades rest flat on the cutting surface. A small pair of scissors, about 15cm (6in) long are useful for trimming or unpicking. Embroidery scissors are excellent for this... (Corpus: BNC_Written.txt at position 574839)

2.1.2 Handle as a focused stage of an act (16/33)

Handl- as verb (12/16)

Handle/ + -S (8/12)

→ [material \(5/8\)](#)

4. 146 Natural fibres are derived from vegetable or animal sources and provide cotton, linen, silk and wool. Cotton is strong, hard-wearing, easy to **handle** and relatively inexpensive. (Corpus: BNC_Written.txt at position 555797)

19. 180 Soft, weighty fabrics tend to fall easily into gentle folds; an obvious example is cotton velvet which is both soft, supple and heavy. Every fabric **handles** differently, and the only way to find out how it is likely to drape when made up into curtains is to hold up a large sample and study how it hangs. (Corpus: BNC_Written.txt at position 554450)

21. 194 Rayon is frequently blended with other fibres and used extensively in furnishing fabrics. It is soft, and **handles** and drapes well. (Corpus: BNC_Written.txt at position 557639)

22. 167 ...used (i.e., fibre content) and the weave and various finishes which may be applied to it, as it is the combination of these factors that affect its appearance, how it **handles** and its performance. Time spent examining and handling fabric for yourself is time well spent as there is no substitute for experience. (Corpus: BNC_Written.txt at position 555308)

55. 148 Avoid velvet, as it is difficult to **handle**. Large-patterned fabrics will lose their appeal when combined in a complex swag, and should certainly be avoided for bias-cut swags. (Corpus: BNC_Written.txt at position 638204)

→ [substance \(3/8\)](#)

25. 160 ...this type of manipulation, but on this occasion the area involved was small, and I could work on it easily whilst the colours remained wet. The paint is soft, **handles well** and is easily thinned with water (Corpus: BNC_Written.txt at position 1169540)

24. 177 Exceptional durability and resistance to yellowing is promised by the combination of lightfast pigments and a highly advanced acrylic emulsion. The paint is soft, **handles well** and is easily thinned with water, though of course it is waterproof when dry. (Corpus: BNC_Written.txt at position 1164005)

5. 171 If more than one fountain is desired, a surface pump is sensible and, of course when larger volumes of water than submersible pumps **can** easily **handle** are to be moved, then they become a necessity. (Corpus: BNC_Written.txt at position 713069)

+ -ING (2/12)

→ material (2/2)

49. 162 HANDLING DELICATE FABRICS

A little extra care than normal is needed when **handling** such fabrics as velvet, silks and fine transparent fabrics, including nets. (Corpus: BNC_Written.txt at position 600322)

52. 145 Use very sharp, fine pins (or needles), and very sharp scissors when **handling** these lightweight materials to prevent snagging the fine threads and puckering the fabric. (Corpus: BNC_Written.txt at position 602205)

+ -ED (2/12)

→ person (1/2)

11. 157 ...for the Prevention of Cruelty to Animals, supported by various Nonconformists, arrived at Stamford in a new campaign to suppress the "sport". He was roughly **handled** by the mob and forcibly removed from the town. By 1836 five to six thousand people packed into St. Leonard's Street for a "stop run". (Corpus: BNC_Written.txt at position 890708)

→ substance (1/2)

15. 183 Gather the mixture together, then divide into two and lightly rock each ball of dough backwards and forwards to make a smooth surface but do not knead it. The less scones are **handled** the lighter they are. (Corpus: BNC_Written.txt at position 370019)

Handle as noun (4/16)

+ -ING (4/4):

→ material (3/3)

30. 177 They are normally made by professionals in a workroom, and depend on a skill in **handling** and arranging fabric to achieve the best possible folds and drape in the fabric. (Corpus: BNC_Written.txt at position 637489)

36. 150 HANDLING DELICATE FABRICS

A little extra care than normal is needed when handling such fabrics as velvet, silks and fine transparent fabrics... (Corpus: BNC_Written.txt at position 600246)

47. 137 Test a small sample of fabric for stitching, pressing and general **handling** prior to making up in order to obtain results free from puckering and slipping. (Corpus: BNC_Written.txt at position 600476)

→ concrete object (implicit: action more important than the object that is held) (1/1)

40. 134 ...toil -- failing to hold a difficult leg-side catch offered by Aravinda DeSilva on 74 off Devon Malcolm -- but also impressed with the **handling** of his bowlers. (Corpus: BNC_Written.txt at position 429555)

Conclusion : types of objects with 2.1.2 /16:

- material : 10/16

- substances: 4/16

- person: 1/16
- concrete object: 1/16

Conclusion : types of objects with metonymic sense 2.1:

- body-parts (hand): 17/33
- material : 10/33
- substances, matière : 4/33
- person: 1/33
- concrete object (implicit): 1/33

2.2 Metaphoric use (28/61)

Handl- as verb (18/28)

Handle (7/18)

8. 170 Anglia and HBO, the programme division of Time- Warner, will establish three separate groups to produce TV films for America and drama and entertainment for Europe, and **handle** distribution. This will give Anglia a major stake (personal interest or involvement) in a top Hollywood television production company. (Corpus: BNC_Written.txt at position 1099452)

56. 140 Langenscheidt's in-house staff have developed the product ideas and functionalities and **handle** marketing. Most of their sales were originally through traditional bookshop outlets but they have increasingly developed distribution through department stores and leisure electronics stores. (Corpus: BNC_Written.txt at position 4128728)

7. 156 In addition, concern about the ability or more importantly, the need for library patrons to handle Boolean logic has also been expressed. (Corpus: BNC_Written.txt at position 4550224)

62. 165 ...provided by a conventional mini or mainframe operating system (for example, that it needs a RETURN to terminate user input or that the operating system can properly **handle** the echoing of characters to the terminal). With Okapi '86 we were already up against hardware constraints, as much due to disk access times as to CPU speed. (Corpus: BNC_Written.txt at position 4618672)

65. 195 ...exception conditions that occur at run time can be detected by the hardware, the operating system or other software, or PL/I for ADMVS itself, the company says. Using these facilities, users can **handle** these exceptions to write applications that provide non- stop operation, Micro Focus claims. (Corpus: BNC_Written.txt at position 3990994)

63. 147 Even when the preference is weak, the switch will not occur unless there has been time for the predators to learn how to handle the other (now abundant) species. (Corpus: BNC_Written.txt at position 4632019)

6. 156 Rich pinks are the main emphasis in early August, but earlier in the year blue delphiniums predominate. Strong pink is not the easiest colour to handle, as it can clash terribly, but it always seems to be surrounded by masses of green foliage, blues and pale yellows. (Corpus: BNC_Written.txt at position 52902) (= stand)

+ -ING (6/18)

29. 172 ...HGCA figures for the first half of the 1992-93 season show Ipswich exporting ten per cent of all British wheat. It was also one of the top three ports for barley, **handling** 68,000 tonnes --30,000 up on the previous year. (Corpus: BNC_Written.txt at position 3922309)
31. 146 At Felixstowe it offers a 24-hour service to some of the world's biggest ships, **handling** around 6,000 vessel movements a year. (Corpus: BNC_Written.txt at position 3893258)
32. 190 ...through services for passengers and freight between Scotland and mainland Europe; and efficient cross-London link for passengers combined with on-train immigration checks; improved **freight handling arrangements** through a super-depot at Coatbridge, or better use of existing facilities; and the linkage of such a depot to the trunk road network. (Corpus: BNC_Written.txt at position 2945498)
33. 142 The National Materials **Handling** Centre accordingly set up a Working Party, chaired by Mr. A.C. Parnell of Fire Check Consultants with a brief to examine the following areas of the Problem... (Corpus: BNC_Written.txt at position 4289153)
34. 170 The National Materials **Handling** Centre, with its interest in sustaining national expertise and development in warehouse design, decided to look at the factors restricting advances in the building of automatic warehouses in... (Corpus: BNC_Written.txt at position 4288416)
35. 193 THE managing director of Armstrong Pumps, the Colchester-based specialist **fluid-handling** company, was impressed by the Chancellor's proposals. (Corpus: BNC_Written.txt at position 3961178)

+ -EN (4/18)

13. 145 Pergamon Press, owned by Robert Maxwell, **handled** publishing in Britain. (Corpus: BNC_Written.txt at position 2483267)
9. 175 Further, these atoms interact with each other and their environment in unknown ways. These complexities are best **handled** by the density-matrix formalism. The density matrix is defined as $\rho = \frac{1}{Z} \sum_{\alpha} e^{-\beta H_{\alpha}} \rho_{\alpha}$; The density matrix is a weighted average over atomic variables over which we have no knowledge or control. (Corpus: BNC_Written.txt at position 4749093)
10. 149 It is intended to cope with irregular plurals ("child"-- "children"), other morphological variation which is too context dependent to be handled algorithmically ("Hebrides" = "Hebridean"), abbreviations ("BBC" = "British Broadcasting Corporation"), words with alternative spellings ("gaol" = "jail") and near synonyms ("Great Britain" = "United Kingdom" = "Britain") (Corpus: BNC_Written.txt at position 4590964)
16. 142 ...instability, the security of Taiwan and Hong Kong, and tensions on the Korean peninsula (which may have prompted the visits) could have been handled through diplomatic channels without resort to secrecy, Mr Winston Lord, US ambassador to China until this year, pointed out yesterday. (Corpus: BNC_Written.txt at position 2513720)

+ -ED (1/18)

12. 157 Crockatt, whose prowess he had admired at Rugby, to secure intelligence from prisoners of war; E. R. Coombe to form the inter-services security board, which **handled** code- names and deception as well as security; (Sir) Gerald Templer [q.v.] to run the security of the expeditionary force;and M. R. Jefferis to invent and exploit secret gadgets. (Corpus: BNC_Written.txt at position 3538079)

Handle as noun (10/28)

+ -ING (9/10)

53. 154 IBM might even be able to put the machine into volume production during 1993 but may settle for a system to offload CICS terminal **handling** to start with. (Corpus: BNC_Written.txt at position 3978239)
48. 154 These users are very strongly motivated and persistent. More than half the machine time is spent **handling** sessions of this type. (Corpus: BNC_Written.txt at position 4613413)
37. 158 In some systems this increased efficiency shows savings between 30% and 50% on **handling** efficiency alone. Some industries have a need for the quarantining of products at various stages of manufacture, right up to actual use, in order to satisfy quality control and statutory requirements. (Corpus: BNC_Written.txt at position 4294890)
50. 154 The goal is a practical, affordable and manufacturable diamond multichip module capable of **handling** the thermal management problems of current and next-generation high-power microprocessors, which increasingly exhibit the properties of furnaces and microwave ovens. (Corpus: BNC_Written.txt at position 3972272)
42. 164 The entrance to the house is through the central glazed doors on the north side, which open into the twenty-inch-wide hall. Lutyens's **handling** of space was a notable feature of his work, and the main hall of the Dolls' House, rising through three floors with lobbies on either side to give access to the main apartments, is particularly successful in this respect. (Corpus: BNC_Written.txt at position 2977737)
43. 161 ...the IAAF, with one of their showpiece events, the World Indoor Championships, to be staged in Toronto next week. It also follows severe criticism of the IAAF's **handling** of the Butch Reynolds and Katrin Krabbe drugs cases. (Corpus: BNC_Written.txt at position 288746)
45. 181 A useful system for **handling** practical program equivalence questions must be able to deal with programs containing loops. (Corpus: BNC_Written.txt at position 4474985)
54. 179 Not the least remarkable thing about Peter Grimes, bearing in mind Britten's theatrical inexperience at the time, is his equal assurance in **handling** two quite different basic types of music-drama: the genre crowd-scene on the one hand, and, on the other, the monologue. (Corpus: BNC_Written.txt at position 1341061)
41. 140 In the next scene and in the Barn Dance scene of the last act Britten's **handling** of intermittently- heard offstage music is much more in the well- tried tradition of Romantic opera. But here there is no offstage band. (Corpus: BNC_Written.txt at position 1345981)

+ -ER (1/10)

17. 161 POLICE dog **handler** Barry Barlow is seeking a mutt with "a bit of sparkle" to be his new partner against crime. (Corpus: BNC_Written.txt at position 471417)

APPENDIX 14: SEIZE

BNC (written) (1, 007,000)

Literal sense : 12/55 = 22%

Conceptual sense : 43/55 = 78%

▣ = types of objects « seized »

1 Literal sense (12/55)

1.1 Take/grasp with the hand(s) using physical force or sudden gesture(1/12)

Seize- as verb (1/1)

Seize/+ -S (1/1)

→ person (1/1)

45. 161 PLAYER: At the tavern?

GUIL: At the court. I would say I have some influence.

PLAYER: Would you say so?

GUIL: I have influence yet.

PLAYER: Yet what? (GUIL **seizes** the PLAYER violently.)

GUIL: I have influence! (The PLAYER does not resist. GUIL loosens his hold. More calmly.) (Corpus:

BNC_Written.txt at position 5468966)

Conclusion : types of objets with sense 1.1 (= grasp with the hand using physical force) (1):

- person : 1/1

1.2 Take/grasp with the hand(s) using official power and physical force (6/12)

Seize- as verb (6/6)

+ -EN (5/6)

→ person (3/5)

15. 153 It also alleges that they were forced to put their heads into a bucket of urine and excrement. Tibetan sources claim that two nuns who were seized after the March demonstrations were held in cells with male prisoners and raped. (Corpus: BNC_Written.txt at position 2008361)

18. 155 The other, more effective means, was the taking of hostages: chiefs or other tribesmen and their wives or children were seized and imprisoned in Russian forts as a guarantee of submission and tribute-payment on the part of their compatriots. (Corpus: BNC_Written.txt at position 3311885)

20.136 Mr Arce Gomez, who once enlisted the services of the former SS officer Klaus Barbie to advise Bolivian death squads, was seized by a joint force of Bolivian commandos and US drug officials while attending a family party on a ranch outside Santa Cruz. (Corpus: BNC_Written.txt at position 2456875)

→ concrete object (2/5)

30.174 Tass said journalists were shown money and hand grenades seized from him and a tape recorder with the text of the oath Soviet citizens were expected to take when recruited. (Corpus: BNC_Written.txt at position 2283353)

31. (same as 30.)186 An arms cache was found in the house of "a certain Azimov who was alleged to have been recruited by Bashir's agents. Tass said journalists were shown money and hand grenades seized from him and a tape recorder "with the text of the oath Soviet citizens were expected to take when recruited. (Corpus: BNC_Written.txt at position 2217432)

+ -ED (1/6)

→ person (1/1)

49. 153 They did not get far. As the official indictment says, " officers on duty from the Lhasa Public Security Bureau seized them on the spot with the swiftness of a thunderbolt. (Corpus: BNC_Written.txt at position 2006666)

Conclusion : types of objets with sense 1.2 (= grasp with the hand using official power and physical force) (/6):

- person : 4/6

- concrete object: 2/6

1.3 Take/grasp illegally with the hand(s) using physical force

(3/12)

Seize- as verb (3/3)

+ -EN (3/3)

→ person (3/3)

22. 158 Ms Rubiya Sayeed, aged 21, has not been seen since Friday night, when she was seized by seven gunmen from a minibus in the state capital, Srinagar. (Corpus: BNC_Written.txt at position 2445658)

33.186 They said Rubaiya Mufti, daughter of the Home Minister, Mr Mufti Mohammed Sayeed, was seized in the city of Srinagar by the Kashmir Liberation Front, a group demanding the secession of Jammu- Kashmir state from India and its assimilation into Pakistan - Reuter.. (Corpus: BNC_Written.txt at position 2361254)

37. 177 There was also trouble with yasyri , that is slaves seized, not for formal reasons like the amanaty, but for the personal use of men far from home and family. (Corpus: BNC_Written.txt at position 3261590)

Conclusion : types of objets with sense 1.3 (= take/grasp illegally with the hand using physical force) (3):

- person : 3/3

1.4 Legally or illegally take/grasp with the hand(s) using physical force (2/12)

Seize- as verb (2/2)

INF. (1/2)

→ person(1/1)

46. 188 Quelling an urge to run from the sanctuary, to seize the prince and bring him back before it was too late, she fell on her knees. (Corpus: BNC_Written.txt at position 5145030)

+ - EN (1/2)

→ person (1/1)

14.165 Nine nuns leapt on to the stage of a Tibetan opera at the Yoghurt festival in the Norbulinka Park on September 2 and were quickly **seized**. According to more than one witness, one of the nuns had her shoulder broken. (Corpus: BNC_Written.txt at position 2009874)

Conclusion : types of objets with sense 1.4 (= Legally or illegally take/grasp with the hand(s) using physical force) (/2):

- person : 2/2

Conclusion : types of objects with literal sense (/12):

- person : 10/12

- concrete object : 2/12

2 Conceptual sense (43/55)

2.1 Metonymy (8/43)

Seize- as verb (8/8)

Seize/+ -EN (6/8)

→ concrete object (5/6)

19.145 Any printed material discovered which might be construed as dissent, or likely to encourage dissent, has routinely been **seized** and those in possession imprisoned. (Corpus: BNC_Written.txt at position 2666233)

47.149 There were 4,000 reports to the National Criminal Intelligence Service last year and in the last five years over £500,000 in cash has been **seized**. (Corpus: BNC_Written.txt at position 1463285)

32.153 Swazi police said yesterday they had **seized** illegal drugs worth more than $4.3 million, the biggest haul ever made in this tiny southern African kingdom. -- Reuter. (Corpus: BNC_Written.txt at position 2688726)

34.188 Police in Rotterdam have **seized** 726lb of cocaine in the biggest-ever haul in Dutch criminal history. - Reuter. (Corpus: BNC_Written.txt at position 2361487)

50. 160 US narcotics agents have arrested 14 people and **seized** 2.5 tons of cocaine and $2.75million (£1.83million) in drug profits during raids in California. -- AP. (Corpus: BNC_Written.txt at position 2553610)

→ persons (1/6)

40. 189 Iraq sets off own rocket. Delhi minister's daughter **seized**. Separatist Muslim militants kidnapped the daughter of an Indian minister yesterday and are demanding the release of five jailed... (Corpus: BNC_Written.txt at position 2360988)

Seize/+ -S (1/8)

→ person (1/1)

36.190 Israel will have to trim its army because of a £320-million deficit stemming from the Palestinian uprising, a military source said yesterday in Jerusalem. -- AP. Israel silent as US **seizes** Noriega aide. (Corpus: BNC_Written.txt at position 2691351)

INF. (1/8)

→ person (1/1)

4.163 The Americans finally assembled a combined total of 24,000 men. If the immediate military objectives were to **seize** Noriega and paralyse potential opposition before it could organise, both seem to have failed. But the use of overwhelming numbers, if not of overwhelming force, was clearly a good way to start. (Corpus: BNC_Written.txt at position 2563893)

Conclusion : types of objects with sense 2.1 (metonymic use) (/8):

- concrete object: 5/8

- person: 3/8

2.1 Metaphors (35/43)

2.1.1 = suddenly take control of (usually using military force) (28/35)

Seize- as a verb (28/28)

+ - ED (15/28)

→ places (9/15)

16.151 In the central Philippine city of Cebu, meanwhile, negotiations with the 200 army rebels who **seized** an air force base are at a stalemate. The air force general leading the mutineers refused to give up control of the base even as the siege of Makati ended. (Corpus: BNC_Written.txt at position 2373731)

17. (same as 16) 151 In the central Philippine city of Cebu, meanwhile, negotiations with the 200 army rebels who **seized** an air force base are at a stalemate. The air force general leading the mutineers refused to give up control of the base even as the siege of Makati ended. (Corpus: BNC_Written.txt at position 2261544)

28.192 The Ummayyads, a dynasty based in Damascus, **seized** Egypt in 658, but held it only until 750. During that period the great schism within Islam between sunni and shi'ite occurred, in which Egypt became associated with the former, as it has remained ever since. (Corpus: BNC_Written.txt at position 3843308)

29.182 Smarting from the coup attempt, in which her official residence was bombed from the air and the capital's financial heart **seized** for five days, Mrs Aquino came swinging back yesterday. Maybe it is time for me to get angry and fight back at those who are fighting me, she said. (Corpus: BNC_Written.txt at position 2291153)

41. 181 From 1316 to 1319 Lancaster's feud with the courtiers dominated English politics. In October 1317 the earl **seized** the royal castles of Knaresborough and Alton, Staffordshire, then in Damory's custody, and he was later to accuse Damory of plotting against his life. (Corpus: BNC_Written.txt at position 3422903)

42. 146 ...there was a series of revolts, plagues and famines. This weakness left Egypt an easy prey for the rising Ottoman empire that **seized** the country in 1517, making it then a province of Istanbul and that loosely structured empire that was to dominate the Middle East until 1918. (Corpus: BNC_Written.txt at position 3845994)

43. 166 Task Force Atlantic also attacked and **seized** the main military prison, freeing some 48 prisoners who had been arrested by Gen Noriega after the abortive coup against him on October 3. (Corpus: BNC_Written.txt at position 2594122)

44. 148 Simultaneously, Task Force Semper Fidelis, composed of US marines and military police, **seized** the main road across the canal, the Bridge of the Americas, and secured the approaches to Howard Air Force Base, which was always under US military control. (Corpus: BNC_Written.txt at position 2591214)

48. 157 ...elaborate system which replaced this piecemeal amateur effort, and in any case they were spared the necessity of any expenditure since the Empress Elizabeth **seized** their assets in 1747, just as plans were in hand to construct the new line. (Corpus: BNC_Written.txt at position 3277150)

→ situation (power, control)(6/15)

39. 193 This is the second significant Communist Party clear-out in the four weeks since Mr Mladenov **seized** power. (Corpus: BNC_Written.txt at position 2357361)

23. France has decided to cut off aid to the Comoros Islands until the French mercenary, Mr Bob Denard, and his men, who **seized** control 10 days ago, leave the archipelago, government sources said yesterday. (Corpus: BNC_Written.txt at position 2264855)

24. (same as 23) 190 France has decided to cut off aid to the Comoros Islands until the French mercenary, Mr Bob Denard, and his men, who **seized** control 10 days ago, leave the archipelago, government sources said yesterday. (Corpus: BNC_Written.txt at position 2196474)

25. 190 (same as 24.) France has decided to cut off aid to the Comoros Islands until the French mercenary, Mr Bob Denard, and his men, who **seized** control 10 days ago, leave the archipelago, government sources said yesterday. (Corpus: BNC_Written.txt at position 2380081)

26. 169 The Nazis **seized** control early in 1933. (Corpus: BNC_Written.txt at position 2039828)

27. 149 The first military operations were launched by Task Force Atlantic, charged with securing the canal itself. Special Forces **seized** control of the main dams on the canal, and prepared landing grounds for the helicopter-borne troops who came in to block the roads and defend the canal against guerrilla attacks from the pro-Noriega armed militia, the Dignity Battalions. (Corpus: BNC_Written.txt at position 2590875)

INF. (10/28)

→ place (8/10)

1. 189 In 1837 Haines persuaded the sultan of Lahej to sell Aden. He returned to India, following a kidnap attempt, but because there was a fear that Muhammad Ali Pasha, governor of Egypt, might **seize** Aden, he stormed the town on 19 January 1839. Haines was presented with a sword worth 200 guineas, appointed political agent, and later promoted captain (1841). He administered Aden from 1839 to 1854. (Corpus: BNC_Written.txt at position 3462599)

2. 138 Their main objective was to **seize** and hold the canal itself against the demolition attacks which had long been threatened by Gen Noriega. (Corpus: BNC_Written.txt at position 2593582)

3. 187 IT may never be known whether the Syrian army ever really did intend to **seize** Baabda Palace, drive out General Michel Aoun, and install the new President, Elias Hrawi, in his place. (Corpus: BNC_Written.txt at position 2146704)

6. 178 In 1833 Haines was instructed to survey the island of Socotra as a possible coaling station for steamships travelling between Britain and India. Following his failure to buy or **seize** Socotra, Haines convinced the government of Bombay that Aden could be made into both a strategic and a great commercial centre. (Corpus: BNC_Written.txt at position 3462269)

7. 132 A battalion of the 7th Light Infantry Division and a battalion of the 82nd Airborne, being used as ground troops, were deployed to **seize** the Atlantic Ocean end of the canal at Colon. They also took command of the crucial Madden Dam, which regulates the amount of water flowing into the canal, and maintained helicopter and motorised patrols along the 51-mile length of the canal. (Corpus: BNC_Written.txt at position 2593829)

10. 147 Syrian forces, Lebanese troops, and militiamen have been poised for a week for an attack to **seize** the palace. (Corpus: BNC_Written.txt at position 2255098)

11. (same as 10) 147 Syrian forces, Lebanese troops, and militiamen have been poised for a week for an attack to **seize** the palace. Diplomatic sources said Syria had increased its troops in Lebanon from about 30,000 to 45,000 since Mr Hrawi's election. (Corpus: BNC_Written.txt at position 2360590)

12. 13 IN the biggest American paratroop operation since the Allied attempt to **seize** the Rhine bridges in 1944, the US Army dropped two battalions of elite Rangers into Panama in an operation involving 24,000 troops, tanks, warplanes and gunships. (Corpus: BNC_Written.txt at position 2587960)

→ situation (power, control) (2/10)

5.138 Military officers have tried to **seize** power six times since Mrs Aquino became President three years ago. (Corpus: BNC_Written.txt at position 2289324)

13. 178 This happy state of affairs was soon to be destroyed, for Seth, the younger brother of Osiris, was jealous of Osiris's power and prestige and determined to **seize** the throne for himself. (Corpus: BNC_Written.txt at position 1013918)

+ -EN (3/28)

→ situation (power, control) (3/3)

35.147 Not seen as a serious military problem, these naval and air assets were **seized** mainly to cut off possible escape routes for Gen Noriega and his supporters. (Corpus: BNC_Written.txt at position 2594488)

54.193 The Zimbabwean President, Mr Robert Mugabe, yesterday reiterated earlier pledges to resettle hundreds of thousands of black families, but allayed white farmers' fears that their land would be **seized** with minimal compensation to mark the tenth independence anniversary. - AP. (Corpus: BNC_Written.txt at position 2306610)

55. 193 (same as 54) The Zimbabwean President, Mr Robert Mugabe, yesterday reiterated earlier pledges to resettle hundreds of thousands of black families, but allayed white farmers' fears that their land would be **seized** with minimal compensation to mark the tenth independence anniversary. -- AP. (Corpus: BNC_Written.txt at position 2230611)

Conclusion : types of objects with sense 2.1.1 (= take control of) (/28):

- place : 17/28

- situation: 11/28

2.1.1 Take advantage of (6/35)

Seize- as a verb (6/6)

+ -EN (3/6)

→ situation (fact) (3/3)

21. 170 ...or be declared unfit for rule, Prince Richard would likely take his place. As the matter stood therefore, Anne Mowbray was in effect consort presumptive and, as such, if **seized** by one or other of the factions working against the Woodvilles, would herself become a pawn in the battle for the throne. (Corpus: BNC_Written.txt at position 5155196)

51. 157 The Treaty of Versailles, imposing the loss of 27,000 square miles of territory and seven million inhabitants, was to be **seized upon** by Hitler as a national humiliation to be avenged. The Nazis seized control early in 1933. (Corpus: BNC_Written.txt at position 2039751)

52. 186 Our teachers were the nearest guides because they had travelled these routes before us (though of course we wouldn't teach). Their attitudes to literature, art, fashion, politics were seized upon, devoured, turned over, re-sited. Ideas and culture were a way of life and education was never just about learning subjects for exams. (Corpus: BNC_Written.txt at position 3379798)

INF. (2/6)

→ situation (fact) (2/2)

8.146 The only realistic question that poses itself is whether Britain can help to determine the how and the when of reunification. Mrs Thatcher could seize the high ground, providing strong leadership for a radical reassessment of Nato's role in the emerging new Europe. (Corpus: BNC_Written.txt at position 2072832)

9.163 Our truancy is defined by one fixed star, and our drift represents merely a slight change of angle to it: we may seize the moment, toss it around while the moments pass, a short dash here, an exploration there, but we are brought round full circle to face again the single immutable fact -- ... (Corpus: BNC_Written.txt at position 5554850)

+ - ED (1/6)

→ situation (fact) (1/1)

38. 156 Sarah Bamfield seized on a loose ball and swung the ball across the D for Lucy Youngs to poke home at the far post. With Wimbledon wobbling Ipswich turned on the style. (Corpus: BNC_Written.txt at position 360465)

Conclusion : types of objects with sense 2.1.2 (= take advantage of) (/6):

- situation (fact) : 6/6

2.1.2 Suddenly *affect* (with strong physical pain, feeling)) (1/35)

Seize- as a verb (1/1)

+ - EN (1/1)

→ person(1/1)

53. 168 In the midst of these preparations -- Richard Duke of Gloucester, his brother, having already taken Berwick and occupied the fortress -- the king had been seized with a virulent fever to which he had quickly succumbed. (Corpus: BNC_Written.txt at position 5088032)

Conclusion : types of objects with sense 2.2.3 (= suddenly affect) (/1):

- person : 1/1

Conclusion : types of objects with sense 2.2 (metaphoric use) (/35):

- place : 17/35
- situation : 17/35
- person: 1/35

APPENDIX 15: MANIPULATE

BNC (written) (1,007,000)

Literal sense: 7/15 = 47%

Conceptual sense: 8/15 = 53%

(◦) = type of manipulated objects

1 Literal sense (7/15)

1.1 “Concrete” object manipulation (4/7)

Manipulat- as verb (2/4)

TO + INF. (1/2)

→ concrete object (1/1)

1. For all artists working with acrylics, the choice and use of brushes can be very important. Brushes must give control, be flexible and easy to manipulate, and they must also withstand thorough cleaning without losing their shape.
(BNC_Written.txt at position 1173393)

+ - ED (1/2)

→ concrete object(1/1)

3. 196... warehousing, problems which may intensify with future developments, the only reasonable concept appears to be to make provision for fixed fire fighting systems at heights beyond the range of jets manipulated from ground level.
(BNC_Written.txt at position 4328419)

Manipulat- as noun (2/4)

Manipulation (1/2)

→ concrete object (1/1)

9. The internal contents-density of high-bay warehouses is increasing, restricting the use of ladders and making the problem of **manipulation** of all portable equipment proportionally difficult. The very limited space between vertical fuel surfaces, little over one metre, severely limits the trajectory of the fire fighting jets and the majority of stock may be at a height beyond (BNC_Written.txt at position 4311587)

+ - ING (1/2)

→ concrete object(1/1)

7. Like Whistler he was a constant irritant in the somewhat comatose English art world, painting hitherto forbidden subjects, using photographs instead of living models, **manipulating** sheets of newspapers covered with black paint to secure transfers of outlines on canvas, shunning good taste, extracting beauty from the squalid and emotion from the sordid. (BNC_Written.txt at position 1179392)

1.2 “Substance” manipulation (3/7)

Manipulat- as verb (2/4)

+ -EN (1/2)

→ substance (1/1)

2. The long flats, like the rounds, offer versatility: much colour can be loaded on the brush and drawn out over the painting surface, or shorter dabs can easily be applied and **manipulated** without the brush hairs giving way. (BNC_Written.txt at position 1177225)

+ -ED (1/2)

→ substance (1/1)

4. A pupil of Whistler, he derived from him a characteristic liking for low tones, which he **manipulated with** great dexterity to produce effects reminiscent of Rembrandt. (BNC_Written.txt at position 1178358)

Manipulat- as noun (1/1)

Manipulation (1/1)

→ substance (1/1)

10. Sometimes it helps to add retarding gel to acrylic paint for this type of **manipulation**, but on this occasion the area involved was small, and I could work on it easily whilst the colours remained wet. (BNC_Written.txt at position 1169389)

Conclusion : types of objets with literal sense 1 (/ 7) :

- concrete object : 4/7

- substances : 3/7

2 Conceptual sense (8/15)

2.1 “Computer metaphor” : data *manipulation* (7/8)

2.1.1 Manipulation and transformation leading to the creation of something new (6/7)

Manipulat- as verb (2/6)

TO + INF. (2/2)

→ abstract (data, program...) (2/2)

13. 195 For these programs, and deterministic sections of others, much of the structure of our normal form will be redundant. If we wish to store and **manipulate** normal form programs in computers it will be worthwhile investigating this and other topics to discover how they can be made more compact. (BNC_Written.txt at position 4474810)

14. 186 strategies switching from authors, titles and subject headings, particularly through keyword access, seems to have encouraged an inherent need for subject searching. Thus the ability to **manipulate** the different elements at will has in effect altered the task. (BNC_Written.txt at position 4537960)

Manipulat- as noun (4/6)

Manipulation/ + -S (3/4)

8. Hildreth goes further and discusses mechanisms in online catalogues to support browsing, such as features for term selection and result manipulation and displays. (BNC_Written.txt at position 4547133)

11. ...we restrict ourselves to the laws needed to translate finite programs to normal form. Other laws can be deduced from these laws, either by elementary manipulation, or by structural induction on normal forms. The laws we present here provide a clear description of the semantics of each construct. (BNC_Written.txt at position 4394116)

12. As we shall see strangethings, involving complex arithmetical manipulations, can happen to it in the process of transfer. Its weighting remains unchanged. Commonsense says it should be reduced. (BNC_Written.txt at position 3051651)

+ - ING (1/4)

6. As Hafter states, "The major conclusion that emerges from these studies is that the card catalog works.

Even more importantly users are skillful at manipulating it for their own purpose." (BNC_Written.txt at position 4533981)

2.1.2 Manipulation and modification of original material (1/7)

Manipulat- as verb (1/1)

TO + INF. (1/1)

→ abstract (1/1)

15. So long as politicians think that they are entitled to manipulate the money supply to win elections, the conditions for a thriving industry will not be obtained. (BNC_Written.txt at position 3935435)

2.2 Mental manipulation (1/8)

Manipulat- as verb (1/1)

+ - EN (1/1)

→ abstract (1/1)

5. Intrigued by their free and easy life style, the Parker's find their long held values being easily manipulated. Eddy dangles a very tempting adulterous carrot in front of Richard and suggests a convivial evening of wife swapping. (BNC_Written.txt at position 1085658)

Conclusion : types of objects with metaphoric sense (/8) :

- abstract (data, program, money supply, value): 8/8

APPENDIX 16: WIELD

BNC (written) (1,007,000)

Literal sense: 1/4 = 50%

Conceptual sense: 3/4 = 50%

(▪) = types of “wielded” objects

1 Literal sense (1/4)

1.1 = handle with skill and ease (1/1)

Wield- as verb (1/1)

+ -ING (1/1)

→ concrete object (1/1):

2. 184 A Hungarian, Ms Erszebet Varga, who returned from Timisoara on Monday, told Hungarian television that on Sunday pregnant women taking part in the demonstration approached the bayonet **wielding** soldiers and, pointing to their swollen bellies, demanded that the unborn children be killed immediately as they would only starve to death when they were born. (Corpus: BNC_Written.txt at position 2517057)

Conclusion : types of objects with sense 1. (literal sense) (/1):

- concrete object: 1/1

2 Conceptual sense (3/4)

2.1 Metaphoric use (2/3)

2.1.1 The haptic metaphor (2/2)

Wield- as verb (2/2)

+ -ING (2/2)

4. 181 Having quizzed The Tree on the details of this scheme, it would appear that said burden of transferred pain is debited from the account of the guy at— or rather **wielding**— the sharp end of the original action, which seems only fair, I suppose. (Corpus: BNC_Written.txt at position 5619280)

– = *exercise (power, authority, influence, etc.), as in ruling or dominating (Dictionary.com)*
(1/1)

3. 154 US Secretary of State set up SEATO-- the South East Asia Treaty Organisation -- as a forum for discussion in South East Asia, in order to show it was not **wielding** its power without consultation, to try to help sort things out. The US still didn't want to resort to military means and wanted the country to sort itself out. (Corpus: BNC_Written.txt at position 3834394)

2.2 Interaction between metonymy and metaphor (1/3)

2.2.1 Metaphor from metonymy (1/1)

Wield as verb (1/1)

Wield/+ -S (1/1)

1. 141 ...a surgical military strike against targets surrounded by civilians, many of them in this case US citizens. Monroe doctrine lives on as Bush **wields** big stick. (Corpus: BNC_Written.txt at position 2564936)

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