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Lexical Derivation in Mandarin Chinese

漢語的派生構詞法

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ABSTRACT

In the Chinese language, morphologically complex words have been attested since the remote past of the language, including both stem-modifying processes and agglutination of morphemes, mostly lexical and free in the classical language (see Baxter & Sagart 1998). Chinese word-formation has received much attention in the literature in recent times, but most descriptions and theoretical work on the topic are focussed on compounding (see e.g. Packard 1998, 2000, Lin 2001, Ceccagno & Basciano 2009a-b), and it is still a matter of debate whether compounding and derivation are two distinct phenomena in Modern Mandarin Chinese (see, among others, Pan, Ye & Han 2004).

In this monograph we intend to analyse Chinese word formation patterns which may be candidate to derivational status, according to the definition of such process of word formation which we find in the morphological literature (as e.g. Beard 1998, Naumann & Vogel 2000, Olsen 2000): they are patterns such as X-學 ‘the study of X’ (心理學 *xīnlǐxué* ‘psychology’) or X-性 ‘the property of (being) X’ (重要性 *zhòngyàoxìng* ‘importance’). The characteristics of the morphemes around which those patterns are built which sets them close to derivational affixes is that they appear in a fixed position, seem to form new words productively and convey a different, “emptier” meaning than that of the corresponding lexical morph (see Ma 1995). The apparent phonological (and, needless to say, ortographical) identity between a “would-be affix” and its lexical counterpart (as, say, 學 used as a verb, ‘to study’) is not surprising, since grammaticalization without alteration in the sound shape of a morph is a characteristic feature of languages belonging to the East and South-East Asian area (Bisang 1996, 2004). Therefore, the notion of “affixoid”, coined to describe word formation elements in European languages which are bound but phonologically identical to a free form in the language (such as Dutch *boer*, meaning ‘farmer’ as a word and ‘dealer’ when used as a bound form), proves to be unnecessary for Chinese.

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LIST OF ABBREVIATIONS

ADJ	Adjective
Chin.	Mandarin Chinese
CLF	Classifier
COLL	Collective
CONJ	Conjunction
DAT	Dative case
DET	Determiner (的 <i>de</i>)
Du.	Dutch
EMPH	Emphatic particle
Eng.	English
Fr.	French
Ger.	German
It.	Italian
Jap.	Japanese
LOC	Localizer
M	Masculine
N	Noun
NMLZ	Nominalization
PART	Final particle
PFV	Perfective
PRON	Pronoun
PRS	Present
PTCP	Participle
Q	Question marker
Rus.	Russian
SG	Singular
V	Verb

PREFACE

This book is a revised edition of my 2008 Italian-language monograph *La Derivazione Lessicale in Cinese Mandarino* ('Lexical Derivation in Mandarin Chinese'). The original monograph was based on my (homonymous) doctoral dissertation, defended in 2008 at the University of Pavia (Italy). In this revised edition, the core of the research, which is the analysis of language data, is very similar to the first edition, albeit it has been modified to include newer data and analyses which emerged from further research carried out after writing the Italian-language manuscript. Also, new references have been included, in order to provide an up-to-date coverage of the relevant literature and to enrich the theoretical background of the research (see CHAPTER 1). The first two chapters, providing background information on Chinese and on the existing research on the subject of our study, have been significantly shortened and amended, following the suggestions of the reviewers of the original manuscript. The numbering of sections has changed, and many of them have been almost entirely rewritten.

The aim of this study is to analyse, both in a synchronic and in a diachronic perspective, possible phenomena of derivation in Mandarin Chinese, in order to gain a better understanding of the processes of word formation in Chinese and to contribute to a cross-linguistically consistent characterization of derivation. Also, the issue of how grammaticalization works in different language types will be dealt with extensively.

It is important to stress the fact that, although general remarks on 'derivation' as a class of morphological phenomena will be made, our research will deal specifically only with 'lexical derivation' (cf. Kuryłowicz 1936), i.e. patterns of derivation which alter the lexical meaning of the word they are applied to, as It. *-eria* in e.g. *gelateria* 'ice cream parlour' or *pizzeria* 'pizza parlour'. Also, our 'lexical derivation' will include processes of derivation which have the sole function of assigning a word class to the base word, as the German suffix *-heit / -keit* in e.g. *Freundlichkeit* 'friendliness', turning the adjective *freundlich* 'friendly' into a noun (cf. Beard 1998).

The Mandarin data for our study came from a variety of sources, including dictionaries of Classical Chinese, pre-Modern and Modern

Mandarin (近代漢語 *Jīndài Hànyǔ* and 現代漢語 *Xiàndài Hànyǔ*), reverse lexica, corpora offering data from different historical stages of the language (as the *Academia Sinica* family of web corpora), raw web data (from Google searches) and the countless examples which may be found in the literature on Chinese word formation. Since our research is qualitative in nature, rather than quantitative, we believe that the choice of collecting data from various, non-homogeneous sources was appropriated.

In CHAPTER 1, we shall devote some space to the definition of the subject language of our study, i.e. Mandarin Chinese, and then we shall discuss extensively the issue of the definition of ‘derivation’ and the boundary of such class of word formation processes with compounding. Here reference will be made mostly to recent approaches to the problem (Amiot 2005, Bauer 2005 and 2006, Booij 2005, 2007, 2009 and 2010 among others). We shall introduce the theoretical framework which we shall adopt for our research, namely *Construction Morphology* (as in Booij 2005, 2007, 2009, 2010); in *Construction Morphology*, which is an offspring of *Construction Grammar* (Goldberg 1995, Michaelis & Lambrecht 1996, Goldberg 2006), both word formation patterns and syntactic patterns are treated as constructions (“form-meaning-function complexes”; Michaelis and Lambrecht 1996:216). The other main topic of the first chapter will be grammaticalization, and especially the status of derivation and, more specifically, of lexical derivation in grammaticalization research. Contrastive examples of grammaticalization phenomena in Indo-European languages and Chinese will be provided; we shall argue that the semantic processes commonly accepted as characteristic of grammaticalization, as metaphor, metonymy and abstraction, operate also in the evolution of lexical morphemes into derivational affixes.

The subject of CHAPTER 2 will be the treatment of some notions from Western Linguistics in Chinese linguistics, such as ‘morpheme’, ‘root’, ‘derivation’, ‘compounding’, etc. The most influential works on the issue of (lexical) derivation in Chinese linguistics will be discussed, focussing on some recent approaches to the question (as e.g. Ma Q. 1995, Sun Y. 2000, Dong X. 2004).

The core of this book is CHAPTER 3, where our treatment of lexical derivation in Mandarin Chinese will be illustrated, through the analysis of a sample set of Chinese morphemes which may be (and, often, have been)

regarded as instances of grammaticalized (or partially grammaticalized) derivational affixes. We shall first identify some (non-homogeneous!) subclasses of possible derivational affixes, for the sake of simplicity, and we shall then analyze them both in a diachronic and in a synchronic fashion.

In CHAPTER 4, we shall attempt at summarizing the main findings of our research. Apart from restating our reasons for advocating in favour of the cross-linguistic consistence of processes of grammaticalization of derivational affixes, we shall also point out areas for further research, in order to bring to light further evidence for the universality of the processes of morphological change illustrated in the present study.

In the present book, traditional Chinese characters have been chosen as a default. However, in order to be consistent with the sources quoted, we shall also be employing simplified characters in examples when they were found as such. As to the glosses of examples, we adopted the Leipzig set of abbreviations, when applicable (Url: http://www.eva.mpg.de/lingua/pdf/LGR09_02_23.pdf); however, we had to add a few more abbreviations for labels which may not be found in the Leipzig set. The romanization system used here for Mandarin Chinese is 漢語拼音 *Hànyǔ Pīnyīn*, which is the standard virtually in all the Chinese-speaking world. Also, we shall give the modern reading of characters even when writing about earlier stages of the language, as is common practice in sinological studies; reconstructed pronunciations will be provided only when necessary.

CHAPTER 1

THE CHINESE LANGUAGE, DERIVATION AND GRAMMATICALIZATION THEORY

In this chapter we shall first define the subject language of our study, i.e. Mandarin Chinese, and we shall provide a brief description of some of its salient features. We shall then deal with derivation, providing an overview of the literature on the topic, focussing on the issue of delimiting the phenomenon of ‘derivation’ and ‘compounding’. Lastly, we shall introduce grammaticalization theory or, rather, the aspects of it which are most relevant for the purpose of our research. Some space will be also devoted to contrastive analysis of phenomena of grammaticalization in ‘Western’ languages and in Chinese.

1.1 On the Subject of Our Study: Mandarin Chinese

1.1.1 What is ‘Mandarin Chinese’?

In many languages of Europe, the adjective ‘Chinese’ is also used as to refer to the standard language of the People’s Republic of China and of the Republic of China (Taiwan), as e.g. French *chinois*, German *Chinesisch*, Italian *cinese*, etc. The standard language mentioned here is often called ‘Mandarin’ or ‘Mandarin Chinese’ in the English-speaking world; both ‘Chinese’ and ‘Mandarin (Chinese)’ are terms which deserve further clarification.

The term ‘Chinese’ is used even in English, especially by non-specialists, to refer to Modern Mandarin Chinese, i.e. the official language both of the P.R.C. (中華人民共和國 *Zhōnghuá Rénmín Gònghéguó*) and of the R.O.C. (中華民國 *Zhōnghuá Mínguó*)¹. As a matter of fact, ‘Chinese’ could be used to refer to any language (or

¹ The political status of Taiwan is a very sensitive issue. Since the Mainland and Taiwan are *de facto* controlled by different governments, we believe it is appropriate to mention both areas as far as the question of the standard language is concerned. This is not a political endorsement of either the P.R.C. or the R.O.C.

‘dialect’) belonging to the Sinitic branch of the Sino-Tibetan family of languages; this, however, is rarely done. Typically, Modern Mandarin is taken as the Chinese language *par excellence*, and other Sinitic varieties are just termed e.g. ‘Cantonese’, ‘Southern Min’, ‘Hakka’ and so on.

On the other hand, even the usage of ‘Mandarin’ could, in principle, be questioned. The term ‘Mandarin’ is the English rendering of 官話 *guānhuà*², which is actually used both to refer to a group of Northern Chinese dialects (北方話 *Běifānghuà*, ‘northern speech’), and to the *koiné* language spoken by government officials and educated people (Chen P. 1995:205, endnote 4). In the latter sense, 官話 *guānhuà* is a dead language, having been replaced by Modern Standard Mandarin.

In what follows, we shall use the term ‘Mandarin (Chinese)’ to refer just to Modern Mandarin Chinese as a standard language; such system is usually referred to as 普通話 *Pǔtōnghuà* (‘common language’) on the Mainland and as 國語 *Guóyǔ* (‘national language’) or 華語 *Huáyǔ* (‘Chinese language’) in Taiwan. The ‘sociolinguistically neutral’ terms for such language are 中文 *Zhōngwén* (‘Chinese language’) and 漢語 *Hànyǔ* (‘language of the Han people’), the former seeming particularly appropriate to refer to the written form of Modern Mandarin. The term 漢語 *Hànyǔ* as ‘Standard Mandarin’ is also opposed to 漢語方言 *Hànyǔ Fāngyán*, ‘dialects of Chinese’, i.e. Sinitic languages.

Needless to say, the term ‘Chinese’ will also be employed throughout the present work, when making a statement which holds for Chinese languages as a whole, or which does not refer specifically to the Modern language only, but rather to previous historical stages of the language, or to just any of its historical stages. For instance, we shall be dealing with the ‘Chinese script’ (1.1.4) and not with ‘Mandarin script’; also, we might say that “in Chinese, modifiers have always been placed before the modified element”, since such a statement holds for the language regardless of the diachronic stage considered.

As far as the history of Chinese is concerned, there are several known partitions of the language into historical stages. As remarked by Norman

² Literally, ‘officials’ language’.

(1988:23), such issues are problematic especially since the remotest phases proposed are so long that an adequate description becomes rather difficult. In the present work, we opted for Wang Li's partition (1980:35), not among the most recent ones but, still, quite apt for our purposes:

- a. Old Chinese (上古漢語 *Shàngǔ Hànyǔ*), spanning from the oldest attestations of the language (ca. 1200 BCE) up to the end of the Han Dynasty (3rd cent. CE);
- b. Middle Chinese (中古漢語 *Zhōngǔ Hànyǔ*), from the 4th to the 12th centuries;
- c. Old and Middle Mandarin (近代漢語 *Jìndài Hànyǔ*, lit. 'Modern Chinese'), from the 13th century up to the First Opium Wars (19th cent.);
- d. a transition period, from 1840 to 1919;
- e. Modern Chinese (現代漢語 *Xiàndài Hànyǔ*, lit. 'Contemporary Chinese'), up to the present day.

This is one of the simplest possible partitions of Chinese into historical stages and, also, appears to be the most entrenched in the lexicographic tradition. Among other proposals, one may quote e.g. Sun C. (2006:17-18), which sets the end of Middle Chinese around 960 CE (the first year of the Song Dynasty) and terms the following stage 'Early modern Chinese'; see Shi Y. (2002:20-21) for further proposals.

We said above that Wang Li's partition is quite apt for our purposes; this is because we are not concerned with some particular change in the syntax of the language and, thus, a more detailed subdivision would prove to be superfluous. Also, we chose not to consider a Proto-Chinese language at all, as our research is concerned with developments in word formation which are strongly related to the written language.

Apart from the diachronic stages mentioned above, we shall also be using the term 'Classical Chinese', a familiar one for anyone involved in Sinological studies. 'Classical Chinese' (文言 *wényán* 'literary language' or

古文 *gǔwén* ‘classical Chinese prose’) is a conventional term used when referring to the written language since the 5th century BCE, which had become a model for writing also for the times to come (Norman 1988:83, Pulleyblank 1995:3-4). It is not to be regarded as a *stricto sensu* synonym for ‘Old Chinese’; the Classical language was modeled after the Confucian classical texts, and was used for the major literary genres in Confucian culture, i.e. poetry and essays, and it was practically never used for oral communication (see Pulleyblank 1995:3-4, Biasco, Wen & Banfi 2003:38). Thus, Classical Chinese is based upon writings in Old Chinese, but this obviously does not entail that the whole stage of Old Chinese can be represented by the classical language; indeed, Classical Chinese was used as an official language in China until the beginning of the XX Century, but it was by no means “completely static and uniform” (Pulleyblank 1995:4); rather, one finds differences between different historical periods and different authors, and also between different styles.

1.1.2 The Phonology of Standard Modern Mandarin

In Chinese, as it is known, virtually each graphematic unit, namely a Chinese character (漢字 *Hànzì*) corresponds to a syllable³. The syllable, in turn, tends to correspond to the morpheme, and thus the syllable represents the “foundation” of Chinese words, which are made up of one or more syllables: “[t]he foundation of a Chinese word is the set of monosyllables available to the language. All words in the vocabulary are built on these monosyllables” (Yip P. 2000:20).

Traditionally, Chinese syllables are divided into initial (聲母 *shēngmǔ*) and rhyme (or final; 韻母 *yùnmǔ*). Modern Mandarin Chinese has a set of 21 initials and 35 rhymes; these, however, cannot be combined freely (see Yip P. 2000:24-25), syllable structure is quite simple. The only possible combinations of sounds in a syllable are (Yip P. 2000:20; “V” stands for “vowel”, “C” for “consonant”):

³ The only exception in this respect is represented by 兒 *ér*, a character which is also used to represent the subsyllabic *r* sound; in such usage, the character is sometimes written in a lower case, to avoid confusion with the ‘canonical’ reading *ér*.

- a. V
- b. CV
- c. VC
- d. CVC

Moreover, the only possible coda consonants are [n] and [ŋ]. Mandarin syllables are thus short and simple; the whole inventory of Mandarin syllables amounts to 405. The four tones of Standard Mandarin add some more distinctions; however, not all syllables are attested in all of the four tones (for instance, *kan* is apparently never uttered in the second tone). Even if all the 405 syllables were actually attested in four different tones, the total number of distinct syllables would be little more than 1,200; this is a relatively low number, if compared, for instance, to English, for which estimates are around 8,000 (Lin H. 2001:27-9; cf. DeFrancis 1984:15).

The (relatively) simple structure of the syllable in Modern Mandarin has been a relevant factor in the evolution of the domain of word formation, as we shall see in CHAPTER 3. As far as the modern language is concerned, an obvious consequence of the low number of distinct syllables, given also the abundance of morphemes, is the phenomenon of diffuse homophony. We shall get back to this point in 1.1.4.

1.1.3 Aspects of Mandarin Morphology and Syntax

Although Mandarin Chinese belongs to the isolating language type, this does not mean that the language is devoid of morphology⁴. Modern Mandarin lexicon is rich in multi-morphemic words, which amount to around 80% of the total, according to one estimate (Xing J. 2006); someone went so far as to define Mandarin as “a language of compounded word” (Lin

⁴ Interestingly, Old (or Classical) Chinese is often regarded as the prototype of the isolating language. However, the progress made in the reconstruction of the Old language has made possible to demonstrate that Old Chinese *had* morphology, and the typology of morphological processes was indeed richer than in Modern Chinese (see, among others, Baxter & Sagart 1998, Sagart 1999, Pulleyblank 2000).

H. 2001:62; cf. Arcodia 2007). Thus, multi-morphemic words are often regarded as compounds in the literature (*contra* Packard 2000). ‘Compounds’ make up the great part of Mandarin lexicon, and compounding is apparently the most productive means of word formation; as suggested by Ceccagno and Basciano (2007:208), “[i]n Chinese compounding seems to be the rule in the formation of new words”.

Here, however, we shall take a neutral stance on the issue of the compound status of multi-morphemic words in Chinese, and we shall refer to any word which is made of more than one morpheme as a ‘complex word’. This is also because one of the main points in our research will be to set a distinction between compounding and (productive) derivation in Chinese word formation.

Needless to say, to give a complete description of Mandarin morphology is far beyond the scope of this introductory paragraph; here we shall just provide a few representative examples of the kind of complex words which are attested in the Modern Language, even though not all of them have been built with a productive pattern⁵.

(1) A word is made of morphemes in a coordinate relation, often (quasi-)synonymous:

長短	寒冷	能夠
<i>chángduǎn</i>	<i>hánlěng</i>	<i>nénggòu</i>
long-short	cold-cold	can-be.up.to
‘length’	‘cold’	‘can, to be able’

(2) A word is made of morphemes in a modifier-modified relation:

大人	淺藍	復習
<i>dàrén</i>	<i>qiǎnlán</i>	<i>fùxí</i>
big-man	light-blue	again-learn
‘adult’	‘light blue’	‘to revise’

⁵ Here we shall adopt the classification of compounds proposed by Bisetto & Scalise (2005) which identify the three subclasses of coordinate, attributive and subordinate, according to the relation which holds among the constituent morphemes.

The isolating character of Mandarin is clearly visible in its grammatical morphology. We have no obligatory marking of gender, number (except for personal pronouns) or case in nouns and adjectives; there is no verbal tense and only aspect is generally marked. The aspect markers of Mandarin may be regarded as clitic particles, but in Chinese linguistics they are often regarded as suffixes, as e.g. the perfective marker -了 *-le* and the progressive marker -著 *-zhe*. As we shall see in CHAPTER 2, it is this kind of markers, mostly, which have been the core issue in grammaticalization studies for Chinese, rather than ‘our’ lexical derivational morphemes (see e.g. Sun C. 1996, Shi & Li 2001). However, aspect markers and, generally speaking, all markers of inflectional categories fall beyond the scope of our study and, therefore, we shall not discuss them any further. Let us now introduce briefly the Chinese script and some issues related to the relationship between units of writing, sound and meaning.

1.1.4 The Chinese Script

The Chinese script is a system of logograms, usually referred to as ‘Chinese characters’ (漢字 *Hànzì*). A Chinese character, as mentioned above (1.1.2), corresponds (almost) always to a syllable; the character / syllable tends to correspond to a morpheme, as around 90% of Chinese characters represent a morpheme (Wang F. 1998:3). A word, as said before, may be made of one or more morphemes and, therefore, of one or more characters / syllables. Below are the possible relationship among morpheme, character and word (cf. Lin H. 2001):

(5) a character / syllable corresponds to a monomorphemic word

→ 書 *shū* ‘book’, 懂 *dǒng* ‘to understand’

(6) two or more characters / syllables correspond to a monomorphemic word

→ 葡萄 *pútáo* ‘grape’, 奧林匹克 *Àolínpǐkè* ‘Olympics’;

(7) two or more characters / syllables correspond to a multi-morphemic word

→ 手機 *shǒujī* ‘mobile phone’, 賽馬場 *sàimǎchǎng* ‘horse race ground’

The configuration in (6) is quite uncommon in Modern Mandarin, whereas that in (7) is the standard nowadays.

As briefly mentioned in 1.1.2, there is massive homophony among morphemes in the lexical inventory of Modern Mandarin, which is not surprising, given the relatively low number of distinct syllables in the language. Only 297 out of ca. 1200 (theoretical) syllables of Modern Mandarin correspond to only one morpheme, whereas well above 70% of the total number of distinct syllables have at least two meanings. Very often, different meanings correspond to different characters, eliminating the potential ambiguity in the written language (Lin 2001:9 and 85).

Let us take the syllable *yì* as an example:

(8)	億	易	譯	異	藝
	100,000,000	easy	translate	different	art

All of the five characters in (8) correspond to the same syllable, *yì*, but each of them has a different meaning, i.e. it represents a different morpheme. The same characters may also be used, sometimes, to write different morphemes: 易 *yì*, for instance, means ‘easy’ in 容易 *róngyì*, but conveys the meaning ‘change’ in 易經 *Yìjīng*, the original name of the ‘Book of Changes’, a Confucian classical text.

Having provided some basic information on the aspects of Mandarin Chinese which are relevant for the purposes of our research, in the next paragraph we shall introduce the phenomenon which we shall investigate, namely lexical derivation.

1.2 Derivation in Word Formation

As stated in the introduction, this book deals primarily with (proto-)derivation in Mandarin Chinese, both in a synchronic and in a diachronic perspective. In this section, we shall broadly define ‘derivation’ as a morphological process, before turning to the specific topic of lexical derivation.

We learned from the general linguistic literature that derivation is a morphological process which results in the creation of a new word from an

existing one (cf. e.g. Beard 1998:55). This is true also of compounding; the difference lies in the means, as compounding involves the combination of words or, rather, lexical morphemes, whereas compounding typically involves the adding of an affix to a lexical morpheme⁷ (Naumann & Vogel 2000).

Derivation is a category with somewhat blurred boundaries, both with respect to inflection and to compounding. As Nauman & Vogel (2000:929) put it, “[i]nflection, derivation and the lexicon seem to merely represent central points on a more general underlying continuum, ranging from grammar to lexicon”; along such continuum, derivation is more closely related to the lexicon, whereas inflection is closer to grammar (cf. Bybee 1985:82).

The borderline between derivation and compounding will be the main topic of the present research; let us postpone the discussion on such issue to 1.2.2. The dividing line between derivation and inflection has been a major subject for research⁸; for instance, Beard (1998) begins his paper on derivation by discussing the issues related to the distinction between derivation and inflection. It is far beyond the aims of this book to contribute to the discussion on the borderline between derivation and inflection; here we shall just try to draw from the relevant literature insights on the nature of derivation, summarizing the main characteristics of such word formation process.

As mentioned above, any word-formation process which builds a new word by adding a non-lexical morpheme might be regarded as derivation (Beard 1998:55). Inflection, on the other hand, consists typically in the specification of grammatical information on a lexeme, as e.g. gender and number for nouns and adjectives, tense and mood for verbs, etc. Such definitions may be easily challenged; to give but one example, we have cases when an inflectional process alters the lexical category of the base

⁷ This does not mean that affixation is the only attested formal device for derivation; other processes as *Ablaut*, as well as tone change and other suprasegmental alterations may be involved in derivation (for a list, see Naumann & Vogel 2000:934 ff.). However, as our research deals specifically with the topic of the grammaticalization of lexical morphemes into derivational affixes, only affixation will be considered.

⁸ See e.g. Scalise (1988), Dressler (1989), Plank (1994), Beard (1998), Naumann & Vogel (2000), Haspelmath (2002).

word, thus building a new word (ex. adapted from Haspelmath 1996:44):

- (9) *Der im Wald laut singende Wanderer*
 The in-DAT.SG.M forest loudly sing-PTCP.PRS wanderer
 “The wanderer who sings loudly in the forest”

In (9), present participle inflection turns the verb *singen* ‘to sing’ into an adjective. Even though a ‘watertight’ separation of inflection and derivation appears to be a challenging issue, still much research has been oriented to provide criteria for that; this is what may be termed the “dichotomy approach”, as opposed to the “continuum approach”, whereby the prototypical cases of inflection and derivation are defined, with no clear boundary between those two phenomena (Haspelmath 2002:77-82).

In the present study, we are rather inclined towards a continuum approach; the phenomena which fall under the label of ‘lexical derivation’, anyway, are not among those borderline cases, especially since, as we shall see, mostly convey relatively ‘concrete’ meanings. Let us now provide a selection of the most relevant properties of (prototypical) derivation as opposed to (prototypical) inflection; the selection has been drawn from four relevant works on the topic (Scalise 1988, Dressler 1989, Plank 1994, Booij 2006)⁹:

- a. syntactic properties: derivational suffixes are heads, whereas inflectional suffixes are not (Scalise 1988:567-8);
- b. functional properties: derivational morphology has the function of enriching the lexicon, whereas inflectional morphology cannot do so (Dressler 1989:6);
- c. semantic properties: derivational morphology alters the conceptual meaning of the base word, whereas inflectional morphology adds grammatical information (Scalise 1988:563); the meaning conveyed by inflectional morphology is more abstract / relational than that conveyed by derivational morphology (Dressler 1989:7); the kind of meaning conveyed

⁹ See, also, Haspelmath (2002:71ff.) for an overview on such issue.

by derivational categories¹⁰ is relatively concrete and non-relational¹¹ (Plank 1994:1672-1673);

d. structural and formal properties: the competition among different rules is typical of derivation (e.g. Eng. *-ness* vs. *-ity*), but quite rare in inflection (Dressler 1989:6); cumulative exponence is rare for derivation (Plank 1994:1675); the internal structure of derivational marker is similar to that of free morphs in the language, whereas it is not so for inflectional markers (Plank 1994:1676);

e. openness vs. closeness of the class: inflectional categories constitute a relatively small, cross-linguistically quite common set, whereas the meanings conveyed in derivation are an open set and many among them are attested in one or few languages (Dressler 1989:6, Plank 1994:1676; Booij 2006; cf. Bauer 2002).

As we shall see in the next section, most instances of lexical derivation apparently conform to the prototype of derivation sketched above.

As far as the distinction between inflectional and derivational morphology is concerned, we want to remark one last point, namely that inflectional morphology is organized in paradigms, whereas derivation is not. That is to say, grammatical information conveyed by inflectional morphology is organized in categories, as case, gender, tense, aspect (see footnote 9); one value of each category as, say, genitive case or past tense must be chosen, when required by the context. Inflection is, therefore, obligatory (cf. above, b.), whereas derivation is not; derivation is employed to build a new word (see Haspelmath 2002).

Although not all the attested inflectional categories are present in every language, needless to say, there is a set of categories which are cross-linguistically frequent and consistent, as number for nouns and adjectives and aspect for verbs (cf. above, point e.); inflectional

¹⁰ Here Plank uses the term category in a rather different sense from that of grammatical / inflectional category; in the latter case, a category has its values; for instance, the category 'gender' has the values 'masculine', 'feminine' and 'neuter'.

¹¹ Here 'concrete' vs. 'abstract' is to be understood as a purely semantic notion, whereas 'non relational' vs. 'relational' are concepts related to syntagmatic relations.

morphology may therefore be compared across languages. The different meanings expressed by derivation, on the other hand, are virtually unlimited, i.e. one may imagine just about any meaning (albeit general enough¹²) to be expressed by an affix, or by other morphological means: one often-quoted example of this is the Polish affix *-ówka*, meaning ‘type of vodka made from NOUN’ (Carstairs-McCarthy 1992:187; cf. Bauer 2001b:208 and 2002:27).

Incidentally, these are the main reasons for the ‘preference’ of typological research for inflection, rather than derivation (cf. Ricca 2005:32). In other words, we have universals like the well-known “no language has a trial number unless it has a dual. No language has a dual unless it has a plural” (Greenberg’s universal n. 34; see Ricca 2005:34, Gaeta 2005:12), but it is very hard to formulate such implicatures for derivational morphology, as there are no paradigms, i.e. no categories and values. Only a few among derivational ‘categories’, i.e. meaning labels as ‘AGENT’, ‘FEMALE’ and the like, are suitable for cross-linguistic comparison; these are usually non-prototypical instances of derivation, as e.g. deverbal and expressive morphology, located at the borderline with inflection (Ricca 2005:32; see also Bauer 2002, Heine & Kuteva 2002).

Having given a broad definition of derivation, let us now turn to the delimitation of the subject of our research, namely lexical derivation.

1.2.1 Lexical Derivation

The term ‘lexical derivaton’ (*dérivation lexicale*) was introduced by Kuryłowicz (1936, quoted in Beard 1998:58) to label those word formation rules which add “features” to the base they are added to, as *-ery* in *bakery*; what is meant here by ‘features’ is actually ‘lexical meaning’. Our usage of the term ‘lexical derivation’ is broader, and includes also

¹² As remarked by Bauer (2002:37), “(...) nobody has found a language in which a derivational affix means ‘grasp NOUN in the left hand and shake vigorously while standing on the right foot in a 2.5 gallon galvanized pail of corn-meal-mush’ (as predicted by Rose 1973: 516)”.

other derivational processes, as we shall show¹³.

Basing on a review of the relevant literature, Beard (1998:57 ff.) proposes a classification of derivational phenomena into four types:

- a. “Featural derivation”, i.e. the processes which do not change the category of the base, but rather alter its “inherent features”, as e.g. gender in Rus. *student* → *studentka* ‘male student – female student’;
- b. “Functional derivation”, i.e. Kuryłowicz’s *dérivation lexicale*, namely those processes that alter the lexical semantics of the base, as It. *pizza* → *pizzeria* ‘pizza parlour’, or Eng. *employ* → *employer* (→ *employee*). As mentioned in the preceding section, this type of derivation may convey a virtually endless number of meanings, but it appears that a relevant part of such processes is based on grammatical case relations, as ‘locative’ (*pizzeria*), ‘nominative’ (*employer*), ‘accusative’ (*employee*), and so on;
- c. “Transposition”, namely “a simple change of category without any functional change”, as e.g. Ger. *freundlich*A → *Freundlichkeit*N ‘friendly – friendliness’;
- d. “Expressive derivation”, also known as evaluative morphology, i.e. those derivational processes which add meanings as GOOD, SMALL, BAD, etc., without assigning a part of speech to the base and without shifting its reference, as Rus. *dožd* → *doždik* ‘rain – light rain’; this is a rather peculiar type of derivation, since the same evaluative process may often be found in words belonging to different word classes, as e.g. the Italian diminutive suffix *-ino* in *tavolino* ‘small table’ and *giallino* ‘light yellow’ (see Scalise 1994, Grandi 2001).

In the present book, we shall regard ‘lexical derivation’, basically, as functional derivation, similarly to Kuryłowicz (1936); however, we shall also take into consideration transpositional processes, i.e. class-changing

¹³ Beard’s own usage of the term ‘lexical derivation’ is even broader than ours, as it appears to include all major types of “regular grammatical derivation”; see Beard (1998:57 ff.) for further details.

morphology with no specific lexical content¹⁴. This is because we observed that many processes of transposition originate from functional derivation, i.e. there is sometimes a diachronic link between them; this leads to situations in which it is difficult to set a clear boundary between functional derivation and transposition. For instance, the German transpositional suffix quoted above, the nominalizer *-heit* (*/-keit*), is the product of the grammaticalization of an Old High German lexeme meaning ‘person, rank, manner, gender’ and other related meanings, as we shall see in further detail below (1.3.2.1). This is to say that at different point in time, or even in the present, a process of transposition may be close to functional derivation; albeit a distinction is normally possible, they are ‘neighbouring’ phenomena and it is worthwhile analysing both of them, in our perspective.

The two other types of derivation (according to Beard), namely featural and evaluative derivation, will not be considered in our study. They are both non-prototypical instances of derivation; expressive derivation does not assign a word class to the base and may be applied recursively to the same word, as in It. *tavol-in-ett-o* ‘table-SMALL-SMALL-MS.SG’. Also, evaluative morphology is apparently marginal in Mandarin¹⁵. Featural derivation involves meanings which are close to inflectional categories as e.g. gender, and we believe that it is not uncontroversial to say that such processes build a new lexeme, i.e. we are not sure that one may say that *studentka* ‘female student’ is a separate lexeme from *student* ‘male student’ (see the Russian example above, a.).

Having defined the object of our research, albeit in a sketchy fashion, let us turn to an overview of the literature on one of the core issues of our research, namely the borderline between derivation and compounding.

¹⁴ In Kuriłowicz’s terms, transposition is ‘syntactic derivation’ (*dérivation syntaxique*).

¹⁵ The well-known word forming suffixes *-子* *zi* and *-兒* *-er* originate from diminutives; this function, however, is almost completely lost in Modern Mandarin (see, among others, Wang L. 1989 and 1980). The only ‘true’ expressive affixes in Modern Chinese are *老*-*lǎo*- ‘old’ and *小*-*xiǎo*- ‘small, young’, used with surnames (老李 *lǎo Lǐ* ‘old Li’, 小王 *xiǎo Wáng* ‘young Wang’; see Dong X. 2004).

1.2.2 Derivation and Compounding: Delimiting the Borders

In the literature on word formation, a compound is often defined as a word made up of two or more words. This simple definition meets with two huge problems: on one hand, the problem of the input of compounding and, on the other hand, the definition of compounds as opposed to other “multi-word expressions” (Bauer 2001a:704). A further general problem is the definition of the ‘word’ itself, which is still a question open for debate; see e.g. Ramat (1990 and 2005) and Dixon (2002).

As far as the input of compounding processes is concerned, many authors do not mention the ‘word’ as the basic unit. Bauer (1998:404) defines compounds as “words (...) made up of two or more stems”, whereas according to Haspelmath (2002:85) “base lexemes” are the input of compounding. Haspelmath (2002:86), however, remarks that it is stems which combine in compounding: “Thus, we get English compounds such as *lipstick* (not **lipsstick*), although it is used for both lips, and *child support* (not **children support*), even if several children are supported (...)”. Lieber & Štekauer (2009:5) as well regard lexemes as the base units of compounding; the term ‘lexeme’ includes words, roots and stems, “uninflected parts of independent words that do not themselves constitute independent words”. The authors provide such contrastive examples, from Slovak:

(10) *rýchlovlak*
‘express train’

(11) *rýchly vlak*
‘fast train’

In the word in (10), the stem of the Slovak adjective *rýchly* ‘fast’ is used, with no inflectional morpheme and a linking element *-o* (cf. Eng. *Anglo-Russian*); also, the word as a whole has a specific meaning, ‘express train’, which has been lexicalised. In (11) we have a phrase, rather than a compound; this is because the adjective *rýchly* here is inflected for agreement and *rýchly vlak* refers to any train which goes fast,

i.e. it has no lexicalised meaning.

The opinion that uninflected bases, rather than fully-fledged words, are involved in compounding is therefore quite diffused. However, examples like *suggestions box* or *weapons inspector* (Bauer 2006:720), or It. *ufficio informazioni* ‘information office’ and *centro trapianti* ‘transplant centre’ (Terreni 2005), in which the non-head constituents are marked for plural, seem to contradict Haspelmath’s stance. In a recent paper, Bauer (2006:719) opts for the term “subword” as an all-encompassing term for the possible basic units of compounding: “(...) the forms in which the individual subwords appear may be differently defined in different languages; a citation form in one, a stem in another, a specific compounding form in yet a third, a word form in a fourth”. In other words, Bauer advocates for an idiolinguistic solution to the problem of the input of compounding; if this position has the advantage of putting no ‘Indo-European’ bias in the analysis of word formation in non-inflectional languages, it can also result in a definition way too large of a specific phenomenon, i.e. compounding.

The second issue mentioned above, namely the definition of compounds as distinct from other multi-word expression, is also an open question (see Lieber & Štekauer 2009 for an overview). To give but an example, the Italian examples quoted above, *ufficio informazioni* ‘information office’ and *centro trapianti* ‘transplant centre’, have been termed also ‘broad compounds’ (“composti larghi”; see Terreni 2005) as they are quite far from the prototypical word. Also, the contrastive examples from Lieber & Štekauer (2009) discussed above, exx. (10) and (11), may be best understood as defining a prototype; it is not clear, for instance, whether having a lexicalised, non-fully predictable meaning is a valid criterion for distinguishing compounds and phrases.

As remarked by Grandi (2006:32), the category of compound runs the risk of being turned into a ‘utility room’ (“categoria ripostiglio”), where one may store just any entity in the lexicon which resembles a syntactic object. This, however, is a secondary problem, in our perspective, since we are mostly concerned with the ‘other side’ of the border, i.e. the dividing line between derivation and compounding, rather than that between compounds and phrases. Therefore, in what follows we shall focus on the input of compounding and derivation; this will be a crucial

point in the discussion of the Chinese data.

We mentioned before (1.2; cf. footnote 7) that in our study we shall take into consideration only prefixation and suffixation as possible markers of derivation, since the phenomena of grammaticalization of Mandarin we intend to investigate here have prefixes and suffixes as their outcome. It appears that in the Chinese linguistic tradition the possibility of having derivation is strictly connected with the identification of affixes in the language, as we shall see in the next section.

In 1.2, we remarked that the distinction between processes of derivation and of inflection is a fundamental issue in the literature on morphology. In fact, in Indo-European languages we can often employ formal criteria to distinguish between affixes (bound forms) and words (free forms): above all, an affix cannot occupy a syntactic slot (i.e. it cannot act as a ‘word’); once we know what is an affix, we are basically left with the task of distinguishing inflectional affixes from derivational affixes.

In a language such as Mandarin, the greatest difficulty is met just when one wants to distinguish derivation from compounding (if at all); in Chinese, many lexical morphemes are bound (cf. Packard 2000) and both bound and free morphs have analogous formal and semantic features, generally speaking¹⁶. Inflection, as said above, is not an issue, since there are apparently no obligatory grammatical markers (with the possible exception of aspect markers). Given such a picture, it is clear that the core problem is the distinction between (possible) affixes and compound constituents.

We said above that the distinction between affixes and lexemes in Indo-European language is usually easy; however, it is not always so. As a matter of fact, even in Indo-European languages of Europe we have borderline issues as in languages like Mandarin, when it is difficult to

¹⁶ This is not to say that in Mandarin there is never formal distinction between lexical and grammatical affixes. For instance, aspect markers lose their tone, as -过 *-guo* (experiential past) and -了 *-le* (perfective aspect). However, we have tone neutralization also in compounding: the phrase 打手 *dǎshǒu* ‘to hit the hand’ may be distinguished from the compound 打手 *dǎshou* ‘thug’ just because in the latter the second constituent is toneless (ex. from Anderson 1985:42-43). As the loss of tone is attested both in grammaticalization and in lexicalization, it is not a reliable test to determine whether a morpheme is grammatical or lexical in nature.

decide whether a morpheme is derivational or lexemic, i.e. whether it is an affix or a stem.

Such ambiguity may often be explained by looking at the origin of those bound morphemes: “since many derivational morphemes have developed from lexical morphemes, and since language is changing continuously, this clear distinction [the distinction between compounds and derivatives] is to some extent blurred” (Naumann & Vogel 2000:931). A free form like the German adjective *los* ‘free’ (as in *aller Verpflichtungen los* ‘free from all obligations’) may be a bound word-formation element in words as *hoffnungslos* ‘hopeless’. In Russian, the preposition *bez* ‘without’, as in *bez problemy* ‘without problem’, may act as a prefix in words like *bezopasnost’* ‘security’, lit. ‘without danger’¹⁷.

Word-formation elements like *-los* have been defined by some authors ‘pseudoaffixes’ or ‘affixoids’ (see e.g. Naumann & Vogel 2000:931). The label ‘affixoid’ has been used also to include ‘neoclassical constituents’ (Bauer 1998); neo-classical compounding has been defined as: “a type of composition in which the units of the combination are not native stems but rather non-native roots (mostly from the classical languages Latin and Greek) such as *bio-*, *auto-*, *tele-*, *scope*, *-ology*, *phile* etc.” (Olsen 2000:901).

Booij’s definition of ‘affixoids’ (or ‘semi-affixes’) is “morphemes which look like parts of compounds, and do occur as lexemes, but have a specific and more restricted meaning when used as part of a compound” (2005:114); by such definition, therefore, neoclassical constituents are not affixoids, since they usually have no corresponding lexeme. Neoclassical constituents are bound roots, in English and in other Standard Average European languages as well, and they share the property of being bound with affixes.

However, Neoclassical compounds and ‘ordinary’ compounds have much in common: they are made of two constituents endowed with lexical meaning and despite the fact that neoclassical constituents are not free morphemes, they are easily recognised by speakers; an average speaker of English knows that *bio-* means ‘life’ in words like ‘biology’. Also,

¹⁷ The difference between prepositional and prefixal usage is evident in governmental features: in the phrase *bez problemy*, *bez* triggers genitive marking in the noun *problema* ‘problem’, whereas, as expected, this does not happen in the word *bezopasnost’*.

neoclassical constituents, or at least some of them, may appear in different positions inside a word: compare ‘biography’ and ‘graphology’ (ten Hacken 2000:354); affixes, on the other hand, are characterised by their position in the word (prefixes, suffixes and infixes). One more characteristic which sets apart neoclassical constituents from affixes is that a neoclassical constituent may combine with a derivational affix to form a word, as *electric*, and it would be very challenging to posit the formation of a word through the combination of two derivational affixes and no lexical morpheme (ten Hacken 2000).

Another term which may be found in the literature to refer to neoclassical constituents is ‘semi-words’ (Scalise 1984). In fact, neoclassical constituents possess some word-like features, as they act as stems in word formation and they have a word class; on the other hand, they obviously cannot be classed as words, since they are not ‘syntactic words’, i.e. they cannot occupy a syntactic slot (they are not free). The notion of ‘semi-word’ has also been applied to Chinese (Ceccagno & Basciano 2009a and b), as we shall see in CHAPTER 3.

Although the separation between derivation and compounding may be a challenging issue even in the languages of Europe, it is much less of a problem than in Chinese. The above mentioned cases from SAE languages seem to be a minority, whereas in the majority of instances derivational affixes may be clearly identified; in Mandarin, borderline issues are the rule, rather than the exception. Compare the following complex words:

(12) 人當少年不努力

rén dāng shàonián bù nǔlì

person be youth not hard.working

‘When men are young, they are not hard-working’

(13) a. 老人

lǎorén

old-person

‘old man’

b. 工人
gōngrén
 work-person
 ‘worker’

(14) a. 臺灣人
Táiwānrén
 Taiwan-person
 ‘Taiwanese’

b. 北京人
Běijīngren
 Peking-person
 ‘person from Peking’

The morpheme 人 *rén* ‘person’ is used as a word, a syntactically free from, in the sentence (12). In the two words in (13), 人 *rén* is the head of two compounds. The words in (14a-b) appear as formally identical to those in (13); however, complex words like 臺灣人 *Táiwānrén* and 北京人 *Běijīngren* have been regarded by some (e.g. Wang F. 1998, Yip P. 2000) as derived words (compare exx. 4a-c in 1.1.3). Typically, such treatment is motivated by the high productivity of a pattern, with a morpheme in a fixed position, contributing a consistent meaning: in the case of 人 *rén*, one could just build any noun with a place name.

If we were to look at this problem in an idiolingusitic and strictly synchronic perspective, the semantic and formal identity among the usages of 人 *rén* exemplified above would lead us to conclude that we are dealing with the same lexeme. However, analysing such question in a cross-linguistic perspective, making use of historical data, will enable us to gain a better understanding of the nature of derivation as a distinct phenomenon, and of the processes that lead to the genesis of derivational markers. We recognise the importance of compounding as the most relevant process of word formation in Modern Mandarin, both quantitatively and qualitatively (cf. 1.1.3); we also believe that it is worth

investigating phenomena which are ‘candidates’ for derivational status.

Such an endeavour may be fruitful only if we take carefully into consideration the peculiarities of Mandarin; above all, the fact that grammaticalized signs in languages of East and South-East Asia typically show no phonological alteration (Bisang 1996), as we shall see in detail in 1.3.2. In what follows, we shall review the recent morphological literature on the issue of the distinction of derivation and compounding in the World’s languages; in the following section, we shall briefly introduce the research done in Chinese linguistics on such topic.

At the beginning of this section, we pointed out that the definition of ‘word’ is an unresolved issue in general linguistics, and this has consequences on the question of the dividing line between derivation and compounding; in Bauer’s words (2005:106-7),

[g]iven the difficulty that there has been for many years in defining a word, it is not surprising that there should be difficulty with the borderline of compounding. Items which fit poorly into the category of word should also fit poorly in the category of possible compound element. (...) [I]t is items to which it is difficult or impossible to attribute a word-class which seem to cause the problems, and instances where items are in the process of gaining or losing the independence that goes with having a word-class.

Bauer discusses some items at the borderline between derivational affix and compounding constituent, Eng. ‘fishmonger’, ‘motorcade’, ‘seascape’, in which the right-hand constituent is not a lexeme of (Modern) English; the uncertainty in their status is a consequence of the lack of a precise definition of the ‘word’ (as opposed to the affix).

The problems in distinguishing between ‘words’ (or, better, stems) and affixes arise, according to Bauer, because word status and affix status are not eternal; we have many instances of free morphemes which become affixes and, less frequently, cases of affixes or ‘splinters’ of words which become fully-fledged words, as the often-quoted English examples ‘ism’ and ‘burger’. When an item is evolving towards (or away from) affixal status, it is endowed with ‘hybrid’ properties which make it hard to classify it as either a word (stem) or an affix.

Bauer (2005:106) suggests that semantic and distributional features may work as diagnostics for affixhood. He quotes Renouf & Baayen’s

treatment of Eng. ‘mock’ and ‘type’ as used in sentences like (15) and (16) (quoted from Renouf & Baayen 1998):

(15) flights of mock-literary dialogue

(16) a funky, regional blues-type version

In (15), ‘mock’ is used as the modifier of an adjective, adverbially, whereas it is normally an adjective in itself. In (16), ‘type’ is attached to a noun, rather than being used in structures as ‘a type of blues’. For both examples, there is at least distributional differentiation between their ‘standard’ use and their use as part of complex words. In other cases, as e.g. Eng. ‘-wise’ (‘resource-wise’), there is a semantic differentiation with the corresponding lexeme (Bauer 2005:100). This is not to say that we may certainly locate the above mentioned items in the domain of derivation; they “appear to be at different points along a potential diachronic development of the same kind [i.e. towards affixhood]. Although we cannot guarantee that the outcome in all of these cases will be an affix, we seem to have the relevant conditions for this to happen” (Bauer 2005:98).

In Amiot (2005), some French prepositions (*après, avant, contre, en, entre, sans, sous, sur*) for which a prefixal use is attested (*avant-guerre* ‘pre-war (years)’, *sur-exposition* ‘overexposure’) have been analysed. She holds that *contre, en, entre, sous e sur* are actual prefixes, since they never change the gender of the base, they can combine with words belonging to different classes, they form endocentric nouns and they are used to convey at least on meaning which is different from that (or those) of the corresponding preposition. For instance, she distinguishes the preposition *sur* ‘on, over’ from the prefix *sur-*, which adds a different meaning in complex words, ‘excessively, in excess’, as in *surcharge* ‘overload’ (Amiot 2005:186-187).

Booij (2005, 2007, 2009, 2010) highlights the analogies between derivation and compounding, in a synchronic perspective. He applies the basic principles of ‘Construction Grammar’ (Goldberg 1995, Michaelis and Lambrecht 1996) to word formation, treating both word formation patterns and syntactic patterns as constructions (“form-meaning-function

complexes”; Michaelis and Lambrecht 1996:216); this is the theoretical framework of ‘Construction Morphology’, to which we will subscribe in our research. In Construction Morphology (henceforth, CM), both ‘true’ derivational affixes and affixoids¹⁸ are represented as ‘constructional idioms’, i.e. structures in which one slot is occupied by the affix(oid) and the other is a variable, containing semantic and categorial information, as we shall see below.

According to Booij (2007:34), “[w]ord formation patterns can be seen as abstract schemas that generalize over sets of existing complex words with a systematic correlation between form and meaning”. To give an example, the formal representation of the construction underlying all English and Dutch endocentric compounds is represented as follows (Booij 2009:201):

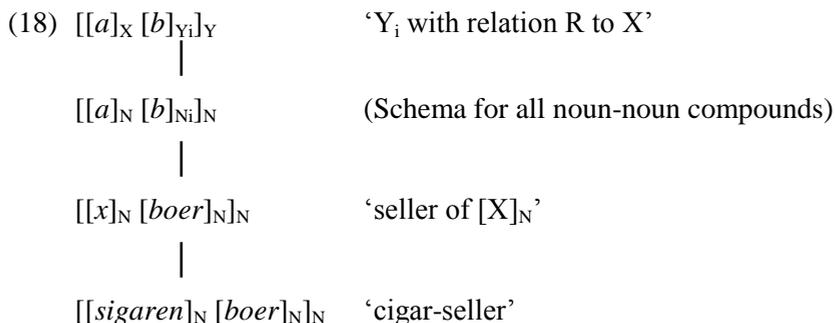
$$(17) [[a]_X [b]_{Y_i}]_Y \quad \text{‘}Y_i \text{ with relation } R \text{ to } X\text{’}$$

In (17), *a* and *b* stand for “arbitrary sound sequences” (Booij 2009:201), entailing that there are no phonological restrictions in the schema. *Y* is the word class variable which, of course, is the same for the head and for the whole compound, being the structure endocentric. The fact that the right-hand constituent is the head is also stated in the semantic specification of the schema: the compound IS A kind of *Y_i* (and not a kind of *X*), and a relation *R* holds between the constituents; such relation cannot be predicted for all English and Dutch compounds. The identity of *Y* on the head and on the whole compound entails that the lexical category, but also other features (as e.g. gender for nouns or conjugation class for verbs) are shared.

In a CM approach, the lexicon is conceived as hierarchically ordered: “there are intermediate schemas in between the individual words and the most abstract word formation schemas, which express generalizations about subsets of complex words of a certain type” (Booij 2007:34). How would we represent the relationship between a “general” word formation

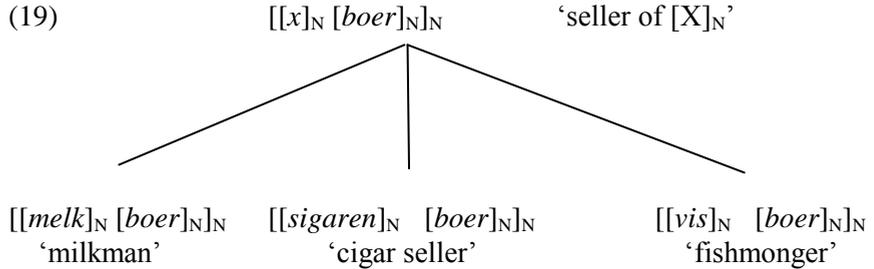
¹⁸ We shall repeat here, for the reader’s convenience, Booij’s definition of affixoid quoted earlier: “morphemes which look like parts of compounds, and do occur as lexemes, but have a specific and more restricted meaning when used as part of a compound” (2005:114).

schema and a complex word as Du. *sigarenboer* ‘cigar-seller’? The first node could be that in (17), which is the one dominating all endocentric compounds; then, we would have more nodes, increasingly specific, the final node being the instantiation(s) of the actual complex word(s) (adapted from Booij 2005:125¹⁹):



The ordering of schemas reflects a hierarchy: “properties of higher nodes are percolated to lower nodes, unless the lower node bears a contradictory specification for the relevant property” (Booij 2009:206). A schema as $[[x]_N [boer]_{N}]_N$ ‘seller of [X]_N’, for instance, shares the properties of the higher nodes, as e.g. being right-headed, but has also additional specifications (the meaning ‘seller of [X]_N’) which apply to what is ‘below’ it, i.e. words built according to the template, which represent the terminal nodes:

¹⁹ Since Booij’s formalism has changed over the years, the representation in (18) has been modified to conform with his latest conventions (as in Booij 2009).



A template as that at the top of (19) is a “constructional idiom” (a notion first proposed in Jackendoff 2002); *melkboer*, *sigarenboer* and *visboer* share a common (head) constituent, *-boer*, and a specific meaning. The form *boer* is also a lexeme of the Modern Dutch lexicon, meaning ‘farmer’; only when used as the head constituent in complex words it conveys the meaning ‘seller of [X]_N’, and thus is a good example of an affixoid in CM terms (cf. footnote 17)²⁰.

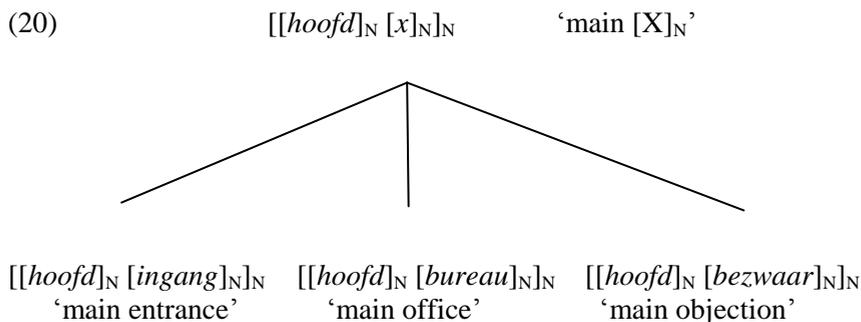
How are word-formation schemas and, thus, constructional idioms, created? In CM, both the abstract schemas and the individual (established) lexical items conforming to the schema are listed in the lexicon; the schemas actually arise from the words themselves (Booij 2009:207):

“(…) people acquire the morphological system of a language, that is, the abstract morphological schemas, on the basis of their knowledge of a set of words that instantiate these patterns. Once they have come across a sufficient number of words of a certain type, they can infer an abstract schema, and will be able to expand the relevant class of words. (…) the native speaker’s competence to create new compounds and derived words is based on abstractions over sets of existing complex words and the words that are paradigmatically related to them.”

In CM terms, the creation of a word formation schema on the basis of “paradigmatic relations” among words with a common constituent is “paradigmatic word formation” (Booij 2007:36). To give but one example,

²⁰ Note that the variable slot in [[x]_N [boer]_N]_N ‘seller of [X]_N’ can be occupied by a noun denoting a non-agricultural product (e.g. *kabelboer* ‘provider of broadband cable services’; see below, 1.3.1.2).

Du. *hoofd* ‘head’ is employed as a bound form, found as the left-hand constituent in a number of compounds, in which it bears the meaning ‘main’ (exx. adapted from Booij 2009:207):



Each of the complex words in (20) is an item of the Dutch lexicon, on the base of which the speaker ‘abstracts’ the constructional idiom $[[hoofd]_N [x]_N]_N$ ‘main [X]_N’. Such idiom represents a productive pattern, made of a fixed constituent (*hoofd*) and a variable slot, for which features may be specified, as e.g. noun class; the same holds for $[[x]_N [boer]_N]_N$ ‘seller of [X]_N’, illustrated above (19).

Two characteristic of those schemas are crucial: firstly, the fact that the schemas are productive, which is what sets a constructional idiom apart from occasional analogy; secondly, the fact that *hoofd* and *boer* are also used as words, as free forms, but with a different meaning (respectively, ‘head’ and ‘farmer’).

As for the distinction between a constructional idiom and occasional analogy, it is also worth remarking that, in the framework of CM, a particular model word is not even necessary for an idiom to be “created” (cf. Booij 2007:37, Booij 2010), whereas, as we know, a model is included in the very notion of analogical word formation.

Both *hoofd*- ‘main [X]_N’ and *-boer* ‘seller of [X]_N’ may be regarded as affixoids in CM, according to the definition quoted above (1.1.2), since, although they also occur as lexemes, they have “a specific and more

restricted meaning when used as part of a compound”. Affixoids resemble affixes in many respects. First, the particular meaning they convey depends on being part of a complex word, just like affixes, which cannot “exist” outside a complex word, except for a few cases of degrammaticalization/lexicalization (as Eng. ‘ism’; Booij 2009:208). Also, their behaviour is more “regular” than that of compound constituents (as for meaning interpretation and selectional properties), as we shall see below (Scalise, Bisetto & Guevara 2005). Why, thus, are they not termed just “affixes”? The difference between, say, *-boer* and a “proper” derivational affix is that for the former there is no formal difference between it and the “corresponding” lexeme in the language, i.e. *boer* ‘farmer’. Thus, affixoids in CM are conceived as bearing a word class; for true affixes, the category belongs to the schema itself rather than to a constituent, as in the one which underlies English and Dutch agentive deverbal nouns in *-er* (Booij 2007:34):

(21) $[[x]_V \text{er}]_N$ ‘one who Vs’

Affixes, thus, are not lexical items; rather, “they only exist as parts of complex words, and as parts of abstract schemas for these complex words” (Booij 2007:34). Here we want to stress the fact that affixoids as well exist as part of schemas; they do have a lexemic counterpart, differently from affixes proper, but their occurrence with their specific meaning is limited to complex words. In our opinion, this is a relevant similarity between affixes and affixoids, as they are conceived in CM.

‘Affixoid’, however, is not to be taken as a new category between those of affixes and lexemes, but rather as a lexeme that occurs “in a subschema for compounds in which the other position is still a variable, that is, without a lexical specification.” (Booij 2005:130). Eventually, the connection between free usage and affix(oid)al usage of a form may be lost due to sound change, or because the lexeme falls out of usage: at this stage, we may just say that a new derivational affix is born. Several examples of such a development may be found in the history of individual languages: for instance, the English suffix *-dom* is generally no longer perceived by the speaker as related to the lexeme ‘doom’, although they both originate from Old Eng. *dom* (compare Booij 2010).

To sum up, according to Booij, an affixoid is a lexeme which is employed with a (consistent) different meaning in word formation, which is not available when used as a word (except for cases of degrammaticalization/lexicalization); the constructional idiom is the *locus* where the development into a derivational affix may occur. The label “affixoid” is thus descriptive in nature; in a hierarchical lexicon there are subschemas (constructional idioms) which generalise over a subset of complex words in which a particular meaning of a lexeme is used, consistently and productively (Booij 2010). We shall go back to the notion of affixoid in 1.3.2.2, discussing its relevance for the study of Chinese morphology.

What all of the approaches illustrated above on the issue of the separation between derivation and compounding have in common is their emphasis on meaning differentiation as a valid test for the grammaticalization of a free form into an affix; it is not to be given for granted, however, that such process will eventually end in producing a new affix, as pointed out by Bauer (2005) and Booij (2005).

Some more interesting remarks on distinctive features of derivational affixes and compound constituents in terms of their selectional properties may be found in Scalise, Bisetto & Guevara (2005). We shall not go into the details of their argumentation to save space; here is a summary of their proposal (2005:142-146):

- a. selection of the base by a derivational affix is fixed and constant, each affix requires the base to have certain features, whereas compound heads select the non-head in a more variable and flexible fashion;
- b. argument structure is not concerned in selection by a derivational suffix, whereas in compounding argument satisfaction is present; in subordinate compounds (as per Bisetto & Scalise 2005) as ‘taxi driver’, the non-head is the internal argument of the verb underlying the head constituent;
- c. while it is theoretically possible to calculate the number of possible (including unattested) derived words for a given process by applying the restriction on the range of bases, this is not feasible for a compounding process, as the kind of selection operated by the head is less stable;

d. a regular derived word always conveys the same meaning, while the interpretation of a compound is less predictable and can depend on the context; for instance, a compound as ‘dog bed’ would be probably interpreted by default as ‘bed for a dog’, but could also mean, in an appropriate context, ‘bed for human beings with a drawing of a dog’²¹;

e. typically, the base in a derived word does not receive a metaphorical reading, whereas this may happen in compounds; in a compound as ‘snail mail’, the non-head ‘snail’ stands for ‘slow’, and all other semantic features of the lexeme are irrelevant.

Now, we may reflect upon the status of affixoids in the light of the properties of derivation and in compounding outlined above. In fact, what emerges is that productive affixoids resemble more closely derivational affixes than compound constituents.

Let us take, once more, Du. *-boer* as an example. The kind of selection operated by *-boer* appears as constant, and the interpretation of the complex word follows the constructional idiom: a *kolenboer* is a seller of coal, a *tijdschriften-boer* is a seller of magazines (ex. from Booij 2007), etc. There is no metaphor involved as well: the full, literal meaning of the base (or non-head) is understood. Is it unclear to us whether it makes sense to calculate the number of possible complex words having *-boer* as the head; nevertheless, we believe that this is theoretically possible.

To sum up, the distinction between affixes and lexemes (as compound constituents) appears to be based mainly on formal criteria. An affix is a bound grammatical morpheme which may never act as a lexeme, i.e. it can never occupy a syntactic slot (even if marked with the required inflectional categories). Affixoids seem to have most of the core properties of affixes, in terms of selection, interpretation, etc.; the difference between them and ‘true’ affixes is just that the former still have a corresponding lexeme in the present stage of the language. The key assumption here is, again, that grammaticalization inevitably goes together with some alteration in the form of the sign (as per Bybee, Perkins & Pagliuca 1994);

²¹ Note that, apparently, this is not a universal characteristic of compounding. In Italian, for instance, compounds typically have only one reading (Scalise, Bisetto & Guevara 2005:144).

since this is generally not true for Mandarin Chinese, as mentioned above, it is unclear whether it makes sense to distinguish affixes and affixoids. In **1.3.2.2**, we shall argue in favour of dispensing with the notion of affixoid altogether in Chinese.

In what follows, we shall deal with the diachronic aspect of the theme of our research, namely grammaticalization theory.

1.3 Derivation and Grammaticalization²²

As our research is concerned primarily with processes of evolution of lexemes into derivational affixes, we cannot avoid introducing the aspects of the theory of grammaticalization which are most relevant for our purposes. However, as we shall see, lexical derivation apparently has never been a central issue in grammaticalization studies; we believe that this is especially because the kind of meaning involved in lexical derivation is often too ‘concrete’, or ‘lexical’, to fit in the general picture of the genesis of grammatical morphs.

Also, we shall highlight that, as mentioned before, one of the best-known correlates of grammaticalization, i.e. the “dynamic coevolution of meaning and form” (Bybee, Perkins & Pagliuca 1994:20) does not seem to be a universal feature of such processes; in fact, it is not generally so in Mandarin Chinese, as well as in other languages of East and mainland South-East Asia (Bisang 1996, 1998 and 2004). We shall illustrate this point with a couple of contrastive examples of the grammaticalization of derivational affixes in English and Chinese. Lastly, we shall devote some space to the status of lexical derivation in historical Chinese linguistics.

What do we mean by ‘grammaticalization’, then? The term ‘grammaticalization’ is supposed to have been coined by Antoine Meillet, who defined it as “l’attribution du caractère grammatical à un mot jadis autonome” (Meillet 1958, qtd. in Hopper & Traugott 2003:19). However, speculations on the origin of grammatical categories are “almost as old as linguistics” (Heine, Claudi & Hünnemeyer 1991:5)²³.

²² Sections 1.3, 1.3.1, 1.3.1.2 and 1.3.1.3 are mainly based on Arcodia (2011).

²³ For an overview on grammaticalization research in modern times, see Lehmann (1995:1-8) and Hopper & Traugott (2003:19-38).

Grammaticalization as a domain of research is defined by Hopper & Traugott (2003:1-2) as:

that part of the study of language change that is concerned with such questions as how lexical items and constructions come in certain linguistic contexts to serve grammatical functions or how grammatical items develop new grammatical functions. (...) As a term referring to actual phenomena of language, “grammaticalization” refers most especially to the steps whereby particular items become more grammatical through time.

In grammaticalization studies, ‘grammatical’ means “that which belongs to, is part of, the grammar, as opposed to, e.g., what belongs to the lexicon, to stylistics or to discourse” (Lehmann 1995:9), rather than ‘well formed’; ‘grammaticality is understood as a gradual property, a sign may be ‘less grammatical’ or ‘more grammatical’.

For the purposes of our study, we shall not be dealing with grammaticalization in general, but rather specifically with ‘morphologization’, i.e. the expression of grammatical categories by morphological means, which is regarded as the last stage of grammaticalization, followed only by reduction to zero (Ricca 2005:29; cf. Bybee, Perkins & Pagliuca 1994). Not all grammatical categories must be morphologized in a given language, and they can be expressed, for instance, in syntactic constructions, as e.g. the English progressive construction.

Also, as we shall see in detail in the next section, a discussion on the genesis of (lexical) derivational affixes involves also the notion of ‘lexicalization’, which is sometimes seen, somehow, as the opposite of grammaticalization (Brinton & Traugott 2005:87)²⁴.

Let us now turn to the most relevant issue, namely the status of lexical derivation in grammaticalization research.

²⁴ Cf. Aikhenvald (2007:58): “Grammaticalization focusses on how grammatical forms and constructions develop out of lexical items. Lexicalization involves the opposite phenomenon: the development of grammatical units into lexical items.”

1.3.1 Lexical Derivation and Grammaticalization

As Hopper & Traugott put it, “when long written histories are available, many bound morphemes can be shown to go back to independent words” (2003:141). This is normally the case for Modern Chinese, as we shall see throughout the work. However, not everyone agrees on the point that the development of a word into a bound derivational formant is to be regarded as grammaticalization, i.e. if such processes have much in common with ‘classic’ instances of grammaticalization, as e.g. the birth of the Romance inflectional future (Lat. *cantare habeo* ‘I have to sing’ > ‘I will sing’ > **cantar’abeo* > It. *canterò*; Norde 2009:78).

To decide whether the evolution of a lexeme into a derivational affix is to be regarded as grammaticalization, lexicalization or even as some independent process requires, firstly, a better understanding of the very notions of grammaticalization and lexicalization, and of the relationship between them (see Himmelmann 2004, Brinton & Traugott 2005). Also, as mentioned before, the status of lexical derivation, i.e. derivational phenomena conveying lexical/content meaning, rather than grammatical/relational meaning, generates much controversy as to whether they are to be regarded as grammatical morphemes.

As said in the preceding section, grammaticalization as a phenomenon of language is defined by Hopper & Traugott (2003:2) as “the steps whereby particular items become more grammatical through time”; even though such a definition has raised objections in the literature, especially because of its focus on ‘items’, rather than on constructions (cf. Himmelmann 2004:31), it is commonly accepted, and we can use it as a starting point for our discussion. The term “lexicalization” has been used to refer to many different phenomena; in Himmelmann (2004:27), five different uses for such word are listed. A typical conception of lexicalization as a historical phenomenon is “adoption into the lexicon” (Brinton & Traugott 2005:18): the English phrase *hand in the cap* became *handicap* through univerbation, a classical example of lexicalization (from phrasal to lexical; Brinton & Traugott 2005:49).

What about the pathway “lexeme > derivational affix”? Is it to be regarded as grammaticalization or lexicalization? The answer pretty much depends on what we locate in the lexicon and in the grammar, respectively.

In short, if we adopt a model of the lexicon by which derivational affixes (specifically, lexical derivation) are part of the lexicon, then the processes we are investigating here are instances of lexicalization; if, otherwise, we believe that derivational affixes are part of the ‘grammar’ (however defined), even if they convey lexical/content meaning, then we are dealing with grammaticalization (Himmelmann 2004:22-23). Thus, as expected, the evolution of lexical items into (commonly accepted) derivational affixes has been understood in the literature sometimes as grammaticalization and sometimes as lexicalization, even with inconsistencies in the treatment (as highlighted both by Himmelmann 2004 and by Brinton & Traugott 2005).

Lehmann (1989), for instance, suggests that the development of Old High German lexeme *haidus* ‘form’ into the Middle High German derivational affix *-heit* (cf. Eng. *-hood*) is an instance of lexicalization; however, in a later work, Lehmann (1995:87) cites Latin *mente* ‘mind (ablative)’ > Romance *-mente* / *-ment* ‘adverb forming suffix’ and Proto-Germanic *līko* > Eng. *-ly* as “grammaticalization of nouns” (Himmelman 2004:24; Brinton & Traugott 2005:64). Blank (2001), just as Lehmann, believes that Eng. *-hood*, which has the same Germanic etymon as Germ. *-heit* (SOED 1993), is a lexicalized item; Ramat (1992) regards the change *haidus* > *-heit* as grammaticalization (quoted in Brinton & Traugott 2005:63-64).

We have seen above (1.2.2) how the ‘idiomatization’ of a lexeme in a complex word and its evolution into an affix(oid) is understood in Booij’s Construction Morphology. As far as the relationship between (his) idiomatization, grammaticalization and lexicalization is concerned, Booij’s treatment is unclear. For instance, he uses the term “productive lexicalization” to refer, for instance, to the phenomenon by which the Maale (a North Omotic language) noun *nayi* ‘child’ conveys the general meaning of ‘agent’ when used in complex words as *bayi nayi* ‘one who brings cattle to the grazing area’, lit. ‘cattle child’, or *waari nayi* ‘goat child’ (one who takes care of goats; Booij 2010:99²⁵). In the very same paper, however, Booij quotes many examples from Amerindian languages of “lexical affixes”, i.e. affixes with “a specific, non-grammatical

²⁵ The author quotes the Maale data from Amha (2001:78).

meanings”; he also states that

“[the] rise of derivational morphemes is often qualified as grammaticalization (Aikhenvald 2007: 58), since these morphemes have become affixes. Yet, if situated at the endpoint of grammaticalization, we expect these morphemes to have abstract grammatical properties, whereas a morpheme like *-dom* still has a rather specific meaning. Hence, it seems that there is a cline for such bound morphemes ranging from a more lexical to a more grammatical meaning.”

The key point, as mentioned at the beginning of the preceding section (1.3), to decide whether the genesis of derivational affixes (conveying lexical / content meaning) is to be regarded either as lexicalization or as grammaticalization, is to consider how much such processes have in common with grammaticalization and with lexicalization, especially as far as meaning is concerned. See Himmelman (2004:24):

“the real issue appears to be the question of whether the emergence of derivational formatives shares more similarities with prototypical instances of grammaticization or with prototypical instances of lexicalization (...). If this point of view is rigorously applied, it should in principle be possible to claim that for good theoretical and/or empirical reasons derivational formatives are part of the (grammarian’s) lexicon but at the same time their historical development is an instance of grammaticalization rather than lexicalization.”

Not that Himmelmann provides a clear answer to the question: “[t]o decide such issue one would need detailed empirical studies on the various stages and processes involved in the emergence of derivational formatives” (2004:28). This is what we intend to do in the present work: carry out a careful and detailed analysis of historical data. For our purposes, apparently, it is not strictly necessary to decide whether derivation is inside or outside the lexicon, before we can decide whether the process involved in its genesis is actually grammaticalization or lexicalization. What is relevant, in our perspective, is the degree of similarity between ‘established’ grammaticalization (and lexicalization) and the evolution of a lexeme into a derivational affix. We shall deal with the semantic aspects of such processes in 1.3.1.2, where we shall comment on the evolution of the Old Chinese lexeme 性 *xìng* ‘nature,

characteristic' into the bound formant *-xìng* 'the quality of [X] / connected with [X]'.

In the light of the above, it will not come as a surprise that, as mentioned in the preceding section, lexical derivation has apparently never been a major issue in grammaticalization studies. Those works on grammaticalization (and lexicalization) which we quoted here mostly provide a superficial treatment of the issue; this can be explained, in our opinion, by the fundamental 'theoretical embarrassment' caused by derivational affixes which convey lexical/concrete meaning. Albeit many have proposed that affixes in lexical derivation are often the product of the grammaticalization of lexemes as compound constituents (or in collocations), such processes of grammaticalization have never been a subject for deeper investigations, to the best of our knowledge, whereas much has been written on the genesis of 'more grammatical' categories as tense, number, etc. The issue of how lexical derivational affixes come into being has been investigated mostly in the frame of morphological research on the borderline between derivation and compounding (see, among others, the essays in Dressler *et al.* 2005). In the literature, one finds a number of excellent studies on the history of present-day derivational affixes; these, however, are normally carried out on one language (or on one language family) only, and have a descriptive (rather than analytical) focus.

Also, lexical derivational affixes have mostly been ignored in comparative research. Let us take as an example the 'World Lexicon of Grammaticalization' (Heine & Kuteva 2002), a cross-linguistic study of recurrent pathways of grammaticalization, with a list of typical source and target meanings of grammaticalization processes (Appendix I and II). Among the target meanings of grammaticalization, only FEMALE and MALE may be regarded as notions (marginally) involved in lexical derivation. Also, deverbal agentive nouns are one of the very few derivational meanings which are cross-linguistically quite common, as remarked by Ricca (2005:32); according to him, they are non-prototypical instances of derivation, and they are close to the borderline with inflection.

We pointed out above (1.2) the reasons for which typology 'prefers' derivation to inflection: basically, the fact that derivation is not organized in paradigms, with 'categories' and 'values', and the seemingly unlimited

number of meanings which may be expressed derivationally, having very few derivational ‘categories’ which may be compared across languages. The same happens for grammaticalization research; as lexical derivation is ‘unfit’ for cross-linguistic comparison, it has been given little consideration in studies aimed at finding regularities (or, even, universals) in pathways of grammaticalization (as Heine & Kuteva 2002, quoted above).

Moreover, as remarked by Bauer (2002:38-9), it is not easy to find reliable data on derivation for many languages:

“brief grammatical descriptions inevitably give brief descriptions of derivation; some grammarians consider derivational morphology as something of a side issue in grammatical description (particularly if they are attempting to provide a concise description), and thus give it little attention; it is frequently unclear to the reader of a description (possibly because the categories do not easily apply to the language in question) what is inflection and what is derivation; writers of descriptions (particularly descriptions of lesser-known languages) may not have all the information to answer questions which can be answered for other languages - accordingly descriptions are not strictly comparable”.

This is true also for Mandarin: as we shall see (2.2), we find very different descriptions of derivation in different works on Modern Chinese morphology. Also, as we have shown above (1.2.2), even in the ‘familiar’ Indo-European languages of Europe the classification of a phenomenon as derivation or as compounding (or as inflection) is not always uncontroversial.

Moreover, the fact that derivation is not obligatory, differently from inflection, makes it even more difficult to analyse the processes of grammaticalization of derivational affixes with the parameters which are usually found in the literature. In the next section, we shall highlight how Lehmann’s (1995) well-known ‘Parameters of Grammaticalization’ appear as inadequate for the analysis of the genesis of lexical derivation.²⁶

²⁶ A critical revision of Lehmann’s parameters has been carried out also by Bisang (2008). However, as we shall see below (1.3.2), his focus is on grammaticalization processes in general as they occur in languages of East and Mainland South-East Asia, rather than on lexical derivation, being thus very different from our analysis.

1.3.1.1 The ‘Parameters of Grammaticalization’

In Lehmann (1995:121 ff.) six parameters aimed at assessing the degree of grammaticalization of a linguistic sign are proposed. Such parameters of grammaticalization are based on the notion of ‘autonomy’: “the more freedom with which a sign is used, the more autonomous it is. Therefore the autonomy of the sign is converse to its grammaticality, and grammaticalization detracts from its autonomy”. Autonomy (and its reverse, grammaticality) is a gradual property; the degree of autonomy may be assessed on the basis of three major parameters, namely ‘weight’, ‘cohesion’ and ‘variability’, which are manifested along two dimensions, the paradigmatic one and the syntagmatic one.

The six parameters are presented as such in Lehmann (1995:123):

Table 1.1. The parameters of grammaticalization (Lehmann 1995)

	Paradigmatic	Syntagmatic
Weight	integrity	structural scope
Cohesion	paradigmaticity	bondedness
Variability	paradigmatic variability	syntagmatic variability

According to Lehmann, loss of ‘weight’ corresponds to an increased degree of grammaticalization. At the paradigmatic level, weight is ‘integrity’, i.e. the possession of “a certain substance which allows it [a sign] to maintain its identity, its distinctness from other signs, and grants it a certain prominence in contrast to other signs in the syntagm» (Lehmann 1995:126). The notion of integrity is a complex one, and may be applied both to phonology and to semantics. As far as phonology is concerned, the loss of phonological substance results in a loss of integrity; as seen above (1.2.2), affixoids apparently fail to qualify as affixes since they have no difference in the phonological form with the corresponding free morph. As far as semantics is concerned, grammaticalization is said to involve ‘desemanticization’, a notion which has two interpretations, according to

Lehmann, i.e. either a loss of (related) meanings, or the evolution from a concrete meaning into a more abstract one.

The example of the first kind of desemanticization provided by Lehmann is that of the Latin preposition *dē*, which lost its delative sense ('movement from the surface of something') in the evolution towards Romance languages, as in French *de*, conveying "the sheer notion of a relation between two entities" (Lehmann 1995:128). The second kind of desemanticization is seen, as said above, as the evolution of a concrete meaning into an abstract one (Lehmann 1995:129):

since the initial meaning is richer, more specific, it is also more palpable, more accessible to the imagination (...) and, in this sense, more concrete; whereas the meaning of strongly grammaticalized signs, such as 'of', 'will' or 'and', do not yield mental images, cannot be illustrated and are, in this sense, more abstract.

This is a fundamental point behind the notion of grammaticalization: as we shall see (2.1.1), also in traditional Chinese philology the idea that 'empty' words (i.e. grammatical morphemes) originated from 'full' words (i.e. words with lexical content) was present since the XIV century (Heine, Claudi & Hünemeyer 1991). Going back to the notion of abstract (vs. concrete) meaning, we may say that it may be applied easily to transpositions, i.e. processes which have the sole function of altering the word-class of the base. When one deals with examples such as Polish *-ówka* 'type of vodka made from NOUN' (quoted in 1.2), it is less clear whether the criterion of abstractness makes sense. Nevertheless, if one can identify the lexeme from which the affix originates, abstractness may be seen as a gradual property; in other words, even when the kind of meaning conveyed by a would-be derivational affix is quite concrete, one can still compare it with the meaning of the original lexeme and see if it is less concrete.

However, it appears that Lehmann's 'abstract' has a meaning close to that of 'relational'; relational meaning is typically part of the domain of inflection, rather than to that of derivation (specifically, of lexical derivation). This is a key issue in our research and we shall discuss it at length in the next section.

At the syntagmatic level, the parameter of weight is reflected in the ‘structural scope’ of a sign, i.e. “the structural size of the construction which it helps to form” (Lehmann 1995:143). One of the examples of structural scope reduction proposed by Lehmann is the grammaticalization of main verbs into auxiliary verbs as It. *avere* ‘to have’, which operate at clause level as main verbs and at phrase level as auxiliaries. The parameter of structural scope reduction may be applied to the analysis of derivational affixes as well. For instance, the Mandarin morpheme 者 *zhě* in Classical Chinese was used as a demonstrative particle (‘one who Vs’, ‘one who is ADJ’), among other functions; in the modern language, it may combine with nouns, verbs, adjectives and, also, phrases, always forming nouns²⁷:

- (22) a. 黠武主义者
dúwǔ zhǔyìzhě
 militaristic-ideology-*zhe* ‘militarist’
- b. 参加者
cānjiāzhě
 participate.in-*zhe* ‘participant’
- c. 爱国者
àiguózhě
 patriotic-*zhe* ‘patriot’
- (23) 破坏社会治安者 (ex. from Dong X. 2004:85)
pòhuài shèhuì zhì'ān zhě
 destroy society public order *zhe* ‘disturber of public order’

²⁷ Incidentally, we shall remark that the fact that 者 *zhe* may combine with nouns, adjectives and verbs is a violation of a seemingly established principle as the ‘Unitary Base Hypothesis’ (Aronoff 1976) or, rather, its modified version (Scalise 1984). As we shall see (3.2.5), such freedom of combination has been documented in many recent works (e.g. Montermini 2001, Plag 2004).

Judging from the examples above, 者 *zhě* has not fully grammaticalized into a suffix, since its scope may still include a phrase; however, we believe that examples like that in (23) are residual instances of its historical usage as a particle²⁸, as we shall argue in 3.2.5. When applying the criterion of scope reduction, therefore, one should carefully distinguish synchronically productive word formation patterns from ‘vestiges’ of some previous stage of the language, possibly limited to some specific register and/or to some diamesic variety (as, say, formal writing).

The criterion of loss of syntagmatic weight, i.e. scope reduction, partially overlaps with a well-known principle in morphological theory, i.e. the ‘Lexical Integrity Hypothesis’, prohibiting the interaction of syntax and morphology (see Lieber & Scalise 2006 for a brief history of this hypothesis). That is to say, according to the various versions of the Lexical Integrity Hypothesis, an example like that in (21) could not be a product of morphology, since an affix could not attach to a syntactic constituent (a phrase). However, a few examples of “phrasal derivation” are attested e.g. in English (Lieber & Scalise 2006):

(24) a. self-sufficient-ish

b. New Years Day-ish

(25) post digestive disorder complications

In (24a-b), the derivational suffix ‘-ish’ is attached to a (seemingly) phrasal constituent²⁹; in (25), the scope of the prefix ‘post-’ includes the phrase ‘digestive disorder’. Examples like those presented here may also be interpreted as a further confirmation of the validity of the parameter of

²⁸ See Yuan Y. (1997) and Dong X. (2004:85-89) for a diachronic and synchronic description of the functions of 者 *-zhě* (see also Hong B. 2005).

²⁹ The morpheme ‘-ish’ could also be analysed as a degrammaticalized sign: “(...) for some speakers *ish* has become a free morpheme with roughly the meaning ‘approximately’” (Spencer 2005, qtd. in Lieber & Scalise 2006). With a cursory Google search, we found examples like *seveneightish* (shoe size), which might support Spencer’s analysis, although such usage seem not so frequent.

structural scope reduction; since lexical derivation is ‘less grammaticalized’ than, say, inflection, i.e. it is further from the prototypical grammatical categories, derivational affixes may occasionally broaden their scope. Such an issue is particularly challenging for lexicalist approaches to word formation.

Coming to the question of the distinction between compound constituents and derivational affixes, the parameter of scope reduction does not prove to be useful. Compare exx. (26) and (27):

(26) 來自中國的人

lái zì Zhōngguó de rén
 come from China STR PTC person
 ‘person who comes from China’

(27) 中國人

Zhōngguó rén
 China-person ‘(a) Chinese’

In (26), 人 *rén* ‘person’ is used as a word, and it can have a phrasal modifier as 來自中國 *lái zì Zhōngguó*, with the insertion of the marker of modification 的 *de*. In (27) there is no such marker, and 人 *rén* is modified by the word 中國 *Zhōngguó* ‘China’; compare the phrase 中國的人 *Zhōngguó de rén* ‘person from China’ (and compare ex. 14b). Therefore, the scope of 人 *rén* in (27) is more limited than in (26); this can tell us whether we are dealing with syntax or morphology, but it gives us no hint as to whether 人 *rén* is to be treated as a lexical item or as a derivational morpheme.

The second major parameter of Lehmann’s, ‘cohesion’, is translated into ‘paradigmaticity’ (at the paradigmatic level) and ‘bondedness’ (at the syntagmatic level). The paradigmaticity of a sign is “the formal and semantic integration both of a paradigm as a whole and of a single subcategory into the paradigm of its generic category”, whereas ‘bondedness’ is “the intimacy with which it [the sign] is connected with another sign to which it bears a syntagmatic relation” (Lehmann 1995:132,

147).

The criterion of paradigmaticity is not relevant since, as we have repeatedly remarked above, lexical derivation may not be arranged into paradigms. This parameter, therefore, is of little significance as far as derivation is concerned. The property of bondedness is a gradual one, going from simple juxtaposition to merger; any increase in bondedness is termed ‘coalescence’. The usual path is for a juxtaposed element to lose accent, becoming thus a clitic, which later may become a bound morph and, eventually, the boundary between this sign and the base is lost, leading to the loss of identity of the original morpheme.

A clitic stage in the pathway from free morph to affix is deemed necessary also by Hopper & Traugott (2003:142):

While there is not always evidence of a clitic pre-stage in the grammaticalization of affixes out of autonomous lexical words, the fixing or “freezing” and loss of lexical autonomy involved in the process presupposes a clitic stage. In the example of French *-ment*, Spanish *-mente* which we discussed above, and in other examples of derivational affixes such as English *-hood*, *-ly*, etc. out of full nouns, it may be assumed that at one stage the eventual affix was attracted to what came to be its future stem and came to form an accentual unit with it. (...) [i]t is the frequent syntactic collocation of a particular word class, such as noun, with a particular type of clitic, such as an adposition, that most typically leads to morphologization.

So, clitics are supposed to play a key role in processes of morphologization. A different position is held by Lehmann (1995:149-50), who provides the example of the Latin coordination marker *que*, “which is appended to the first word of the second conjunct (as in *cum in ramo sedebat caseumque devorare in animo habebat* [‘as it sat on a tree, it had the intention of eating some cheese’])”; therefore, the clitic is not always hosted by the constituent with which it has a grammatical relationship.

The criterion of bondedness has a limited significance for our research, since in word formation, as we have seen, there is no difference between compound constituents and would-be affixes; the only exception is represented by the few cases of tone neutralization in compounding (see footnote 16), which however is not a rule in Chinese word formation.

The third major parameter put forth by Lehmann is ‘variability’, i.e.

“the freedom with which the language user chooses a sign” (1995:137); which yields the criteria of ‘paradigmatic variability’ and of ‘syntagmatic variability’.

At the paradigmatic level, ‘variability’ means that a sign may be substituted by another element in the same paradigm, ‘intraparadigmatic variability’, or else that sign is omitted, and the category is left unmarked; this is termed ‘transparadigmatic variability’. In some languages, such as e.g. Burmese, there may be a degree of flexibility in assigning classifiers to certain nouns; this is an instance of intraparadigmatic variability. A reduction in transparadigmatic variability, on the other hand, corresponds roughly to the ‘obligatorification’ of a category (i.e. the marker for that category cannot be omitted). Once more, both parameters are suitable for the analysis of the genesis of typical grammatical categories, i.e. inflectional categories, which may be in competition with some other form in a paradigm and which should be obligatorily expressed. This does not apply to lexical derivation, especially as far as obligatoriness is concerned.

At the syntagmatic level, variability is understood as such (Lehmann 1995:158):

The syntagmatic variability of a sign is the ease with which it can be shifted around in its context. In the case of a grammaticalized sign, this concerns mainly its positional mutability with respect to those constituents with which it enters into construction. Syntagmatic variability decreases with increasing grammaticalization.

So, if an adverb is grammaticalized into a case affix, the adverb increasingly loses freedom of position in the sentence; whereas an adverb possibly can be located in different places in a clause, it is not so for a case affix, which is normally put either on the left side or on the right side of a word.

We quoted above (1.2.2) the case of Eng. ‘-type’, which can be analysed as an affixoid since it has a distribution different from that of the lexeme ‘type’ (*a type of* vs. *blues-type*, ex. 16). Lehmann also highlights that a different position of a grammaticalized sign from its lexical ‘forefather’ is caused both by the effect of coalescence, which causes the grammatical element to be adjacent to its ‘lexical support’, and also by processes of analogy with functionally equivalent constructions

(1995:159-160). However, processes of evolution as that of *type*, by which a word used in a syntactic structure becomes an affix, are not that frequent in Chinese. As hinted above, the trend for Mandarin (at least, for nominal suffixes) seems to be the semantic evolution of a head constituent in compounding which, in Mandarin attributive compounding, is normally the right-hand constituent (cf. Packard 2000:39, Ceccagno & Scalise 2006:255). Thus, the real issue is the distinction between the two domains, namely compounding and derivation. However, the criterion of syntagmatic variability may be useful in the analysis of languages as Italian, where attributive compounds are normally left headed (and the adjective normally follows the head noun in syntax), whereas typically lexical derivational morphemes are suffixes.

To sum up, in this section we have proposed a review of Lehmann's 'Parameters of Grammaticalization', and we have tried to show that they have been designed with inflectional morphology in mind, and some of them are inadequate for the analysis of processes of morphologization of 'our' derivational affixes. In the next section, we shall discuss the semantic correlates of the morphologization of affixes, to assess whether they fit in the notion of 'desemanticization', as it is conceived in the literature on grammaticalization.

1.3.1.2 Grammaticalization and 'bleaching'

In the research on grammaticalization, it is commonly assumed that meaning 'fades away' in the evolution towards grammar. In the preceding section, we quoted Lehmann's term 'desemanticization'; a common term used to denote the notion of the 'weakening' in meaning is 'bleaching', a notion reminiscent of von der Gabelentz's *verbleichen* and Meillet's *affaiblissement* (Hopper & Traugott 2003:94). This correlate of grammaticalization has been given different names in the literature, and definitions vary as well³⁰; we shall be using the term 'bleaching' in what follows as a convenience term, to indicate generally any conception of the weakening in meaning in grammaticalization.

What most approaches have in common is that non-grammatical, lexical

³⁰ See Campbell (2001:118-9) for a discussion of different conceptions of desemanticization.

meaning is seen as concrete, material, whereas grammatical meaning is seen as abstract, relational (Heine, Claudi and Hünemeyer 1991:41-45); in traditional Chinese philology as well it was argued that “empty words” (虛字 *xūzì*), i.e. function morphemes, originate from “full words” (實字 *shízi*), lexical morphemes (Heine, Claudi and Hünemeyer 1991:5, Xing 2003:3-4). As a starting point for further discussion of the different conceptions of ‘bleaching’, we shall first give one Chinese example of the evolution of a lexeme into a (possible) derivational affix, namely 性 *xìng* ‘nature, character, disposition’ > ‘the quality of [X] / connected with [X]’.

As mentioned in 1.1.4 (ex. 4a-b), the morpheme 性 *xìng* ‘nature, character, disposition’ is found in a number of complex words in Mandarin, such as 重要性 *zhòngyàoxìng* ‘importance’ (important-*xìng*); in such usage, it has been regarded by some as derivation (cf. e.g. Chen R. 1986, Luo J. 2004). In Old Chinese, 性 *xìng* was a lexeme, a free form, the meaning of which included ‘inherent property’, ‘immutable nature’, ‘life’, ‘temperament’; these are the meanings listed in a dictionary of the Classical language (GHYDCD 2000, my translation):

- a. ‘quality, intrinsic properties or characteristics of sthg.’ (性质，指事物所具有的本性、特点);
- b. ‘Indicates inherent properties of the human being’ (指人的本性);
- c. ‘(Buddhism) The opposite of 相 *xiàng* [physiognomy]. The inherent, inner non-modifiable properties of things, such as heat for fire, or dampness for water’ (（佛）与“相”相对。指事物内在的和不可改变的本质，如火的热性、水的湿性);
- d. ‘Biological life, vitality’ (生命、生机);
- e. ‘Disposition, temperament’ (性情、脾气).

According to Luo J.'s account (2004:91-93³¹), between the fourth and the third century BCE, 性 *xìng* was normally used only as a free form, and we have attestations of it as a constituent in complex words from the first century BCE (in the 史記 *Shǐjì* 'Records of the Grand Historian').

At the stage of Middle Chinese, 性 *xìng* was used in complex words, mostly as the right-hand constituent, acting as the head (10 out of 12 bimorphemic words in the 世說新語 *Shì Shuō Xīn Yǔ* 'New Tales of the World', fifth century CE), a tendency which is even stronger in a tenth century text as the *Dūnhuáng Biànwén* (敦煌變文). In the above mentioned works, the non-head constituent may be not only a noun, but also a verb or an adjective (e.g. 定性 *dìngxìng* 'quiet mind', 慈悲性 *cíbēixìng* 'benevolence, pity'; Luo J. 2004:92), which was not common in previous texts; it therefore appears that the combinatory possibilities for 性 *xìng* complex words have increased.

In the Early Modern Chinese (13th-19th cent.) texts analysed by Luo J., 性 *xìng* is more often used as a constituent in a complex word than as a free morph; Luo J. also claims that, during this period, the meaning of 性 *xìng* becomes 'emptier', i.e. more general (2004:92), although he does not make explicit what is meant by 'emptier'. However, the examples provided by Luo J., actually still seem to bear a rather concrete meaning, i.e. 'nature, disposition', which is not fundamentally different from its lexical meaning (see the list above). We found some more Early Mandarin examples in the *Academia Sinica* tagged corpus, as e.g. 急性 *jíxìng* '(of) impatient disposition', from the adjective 急 *jí* 'impatient, urgent', used as an attribute for people (e.g. in 水滸傳 *Shuǐhǔzhàn* 'Water Margin', 14th cent.); here the meaning conveyed by 性 *xìng* is clearly still that of 'disposition, temperament'. The word 急性 *jíxìng* has survived into Modern Mandarin, but it acquired a new meaning, namely 'acute' (associated mainly with diseases; cf. Chen 1986:89); thus, in such case the complex word does not denote a stable characteristic (as one's

³¹ See the source for the complete list of the texts included in Luo's sample.

disposition), but a changeable property³². We believe that this could be interpreted as meaning generalization.

What about the modern language, then? As said above, 性 *xìng* is no longer a free form, and is thus virtually never used in isolation. When used as the right-hand head constituent in a complex word, it may combine with nouns, verbs, adjectives and also with adverbs (as e.g. 经常性 *jīngchángxìng* ‘regularity’, from 经常 *jīngcháng* ‘regular’). It appears that, at least since the Middle Chinese period, there has been a word formation template such as

(28) $[[x]N/A/V [xìng]N]N$ ‘the nature or spirit of [X] N/A/V / connected with [X]N/A/V’

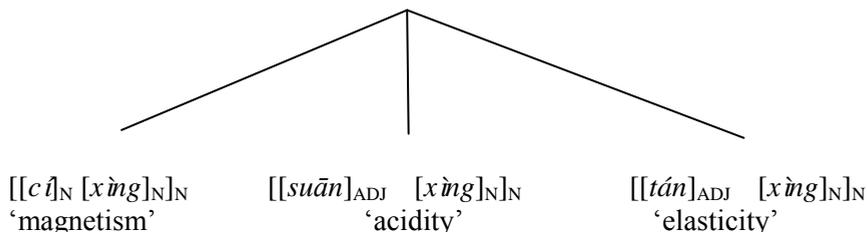
The meaning conveyed by 性 *xìng* in such schema is not fundamentally different from that which it could convey as a lexeme: see e.g. a word as 佛性 *fóxìng* ‘nature of the Buddha’ (i.e. ‘the awareness of all living creatures’; HYDCD 1993).

However, in Early Modern texts, a word as 忍性 *rěnxìng* ‘endurance, tolerance’ (lit. ‘endure-*xìng*’) is attested³³; we believe that such a word is the instantiation of the constructional idiom quoted above, namely $[[x]_X [xìng]N]N$ ‘the property of [X] / connected with [X]’. Complex words as 磁性 *cíxìng* ‘magnetism’, 酸性 *suānxìng* ‘acidity’, 弹性 *tánxìng* ‘elasticity’ are connected to such schema:

³² *Contra* Luo J. (2004:94; my translation): “In all of its meanings, [-性 -*xìng*] always designates an inherent property’, and this conditions the choice of what abstract word or phrases may be the ‘X’ [i.e. the ‘base’] before ‘*xìng*’”.

³³ One attestation of 忍性 *rěnxìng* (seemingly) meaning ‘endurance’ was found in “The Story of a Marital Fate to Awaken the World” (醒世姻緣傳 *Xǐngshì Yīnyuàn Zhuàn*, XVII cent., from the *Academia Sinica* corpus).

(29) $[[x]_X [x\grave{i}ng]_N]_N$ ‘the property of [X] / connected with [X]’



In the words in (29), 性 $x\grave{i}ng$ does not appear to convey the meaning ‘nature’ or ‘spirit’, but rather it has become a morpheme forming abstract nouns (cf. Chen 1986:89). If we take, for instance, the Modern Chinese word 必然性 $b\grave{i}r\acute{a}nx\grave{i}ng$ ‘inevitability, certainty’, we may note that the non-head 必然 $b\grave{i}r\acute{a}n$ ‘inevitable, certain’ is an adjective, but it is also a noun (‘necessity’) in itself; thus, the function of -性 $-x\grave{i}ng$ here is that of carrying a word class (and the [+abstract] feature), not affecting the meaning of the whole word in any other way.

The historical evolution of -性 $-x\grave{i}ng$ may be sketched as such:

(30) ‘the nature or spirit of [X]N’ > ‘the nature or spirit of [X]N/A/V’ >
 ‘the property of [X] / connected with [X]’ / ‘suffix forming
 abstract nouns’

It must be pointed out that -性 $-x\grave{i}ng$ cannot be always interpreted as a mere indicator of noun class:

(31) 爆发 $b\grave{a}of\bar{a}$ ‘to burst out’ → 爆发性 $b\grave{a}of\bar{a}x\grave{i}ng$ ‘explosiveness’

If the function of -性 $-x\grave{i}ng$ were just that of building an abstract noun, 爆发性 $b\grave{a}of\bar{a}x\grave{i}ng$ could well mean ‘explosion’ rather than ‘explosiveness’. We believe that the notion of ‘property’ is still present in the constructional idiom underlying -性 $-x\grave{i}ng$ complex words (‘the property of [X] / connected with [X]’); this explains why such complex

words cannot be associated, for instance, with an event reading.

Having sketched the diachronic evolution of the lexeme 性 *xìng* into the word-formation element -性 *-xìng*, let us discuss the different conceptions of bleaching which we find in the literature. We shall go back to -性 *-xìng* in **1.3.2.1**, where its evolution will be compared to that of Ger. *-heit / -keit*, having an analogous function in word formation.

As said at the beginning of this section, the process of grammaticalization is most often understood as entailing some shift from a ‘concrete’ meaning into an ‘abstract’ meaning; this idea is found also in traditional Chinese philology. Hopper & Traugott (2003:94) invoke the notion of “pragmatic enrichment”, which should occur in the early stages of grammaticalization, with some “redistribution” or “shift” in meaning; however (my italics),

“[t]here is no doubt that, over time, meanings tend to become weakened during the process of grammaticalization. (...) As grammaticalized forms become increasingly syntacticized or morphologized they unquestionably cease over time to carry *significant semantic or pragmatic meaning*.”

However, in the kind of derivational phenomena considered here, i.e. lexical derivation, something akin to lexical/content meaning rather than “purely” grammatical meaning is involved and, this, we cannot expect some sort of *absolute* abstraction of meaning (cf. the Polish affix *-ówka*, meaning ‘type of vodka made from NOUN’, **1.2**); rather, we must envisage some notion of ‘relative’ abstraction. Our proposal is that when a lexeme develops a new meaning, available when used in word formation, with a fixed position and with stable selectional properties, if (and only if) the meaning conveyed by such constituent is ‘more abstract’ than when it is (or was) used as a lexeme, then we are dealing with a process of grammaticalization and a new derivational affix is born. This holds even if there is no formal differentiation with the original lexeme.

How do we understand (relative) ‘abstraction’, then? The term ‘abstraction’ has already been used in the analysis of the evolution from a concrete meaning to an abstract one by Heine, Claudi and Hünemeyer (1991:43-45); in their work, such term has several possible readings. Those which seem to be most interesting in our perspective are

generalizing abstraction and *isolating abstraction*: the former is defined as “reducing the number of distinguishing features of a concept to its most ‘central characteristics’ or ‘nucleus’”, the latter “separates one particular property or feature that is not necessarily the ‘core’ or ‘nucleus characteristic’ of that concept” (Heine, Claudi and Hünemeyer 1991:43). The process of *generalizing abstraction* involves taxonomic reasoning: a lexeme is taken to a higher taxonomical level (hyperonymy: *cork-oak* → *oak* → *tree* → *plant*); *isolating abstraction*, on the other hand, corresponds to the identification of the whole lexeme with one of its features.

Let us try to apply such notions to one of the Dutch example seen above (1.2.2), *boer* ‘farmer’ > ‘seller of [X]N’. We shall use the metalanguage of *Lexical Semantics* (cf. Lieber 2003) for a tentative representation of the “body” of the lexeme *boer*, i.e. its encyclopaedic features:

- (32) <worker>
 <agriculture>
 <runs a farm / works in a farm>
 <**sells agricultural products**>

In its usage as an ‘affixoid’, i.e. as a bound constituent in the constructional idiom $[[x]_N [boer]_N]_N$ ‘seller of [X]N’, one of the encyclopaedic feature defining the corresponding lexeme is ‘isolated’, that is the fact that the sells agricultural products (for a living). The isolated features is not a core semantic trait for the definition of *boer*, the fact that a farmer works in a farm certainly being more relevant for the definition of *boer*’s intensional meaning³⁴.

The process of meaning abstraction has gone further for *-boer*, since it is used also in reference to a seller of non-agricultural products, such as coal (*kolenboer*) or even broadband cable services (*kabelboer*, fn. 19; and compare *pornoboer*!); the appropriate rendering of the meaning that *-boer* conveys is ‘seller of [X]N’, as seen above. A similar process of abstraction of meaning might be operating also in the Maale case quoted above (1.3.1)

³⁴ A dictionary definition of *boer* is “someone whose trade consists in agriculture and/or cattle-breeding” (“iem. wiens bedrijf bestaat uit landbouw en/of veetelt”; VD 2005, my translation).

from Booij (2010:99), *nayi* ‘child’ > ‘agent (in the domain of cattle herding)’, as e.g. in *waari nayi* ‘one who takes care of goats’. Since cattle herding is typically an activity for children in the society of Maale speakers, it is likely that some encyclopaedic feature like <herds cattle> is present in the “body” of *nayi* ‘child’; such feature has been isolated in a constructional idiom. More data is needed, however, to support this analysis.

The evolution of 性 *xìng* ‘nature, character, disposition’ > -性 *-xìng* ‘the property of [X] / connected with [X]’, outlined above, may be analysed as an instance of generalizing abstraction. From the point of view of semantics, a noun indicating inherent and everlasting properties of people or things, or the disposition of a person, evolved into a nominal suffix, indicating just any property. The generalization in meaning goes together with an increase in combinatory possibilities: if the lexeme 性 *xìng* originally could combine (essentially) with nouns, it then broadens the range of ‘bases’ to include also adjectiveness and verbs. At this early stage of the process, 性 *xìng* is still used to indicate properties inherent to men or things. Given such an “environment”, 性 *xìng* further reduces (i.e. generalizes) its intensional meaning: 性 *xìng* complex words begin to be used to indicate just any property, not only inherent ones, and may be associated with all sorts of referents. The further increase in the combinatory possibilities of 性 *xìng* is proved by the fact that, in Modern Mandarin, morphemes belonging to any major word class may combine with -性 *-xìng* (albeit with differences in productivity), building abstract nouns (still conveying the meaning ‘property’).

So far, so good. But, according to Heine, Claudi and Hünemeyer (1991:43-45), neither generalizing nor isolating abstraction are involved in grammaticalization, the relevant process being *metaphorical* abstraction: a given sign undergoing grammaticalization may become endowed with a new meaning, metaphorically connected with the original one. Heine, Claudi and Hünemeyer propose the example of the Ewe³⁵ noun *vi* ‘child’, which is reportedly in the course of grammaticalization into a

³⁵ A Niger-Congo language of Ghana.

suffix and thus acquired several meanings, as e.g. INEXPERIENCED and UNSUCCESSFUL (Heine, Claudi and Hünemeyer 1991:79 ff.):

(33) *núfǎlá* ‘teacher → *núfǎlá-ví* ‘inexperienced teacher’

This suggests a metaphorical change, from the category of PERSON (‘child’) to that of QUALITY (‘inexperienced, unsuccessful’). This amounts to saying that an affix may develop a new meaning, entirely different (albeit related) from that of the lexeme from which it originates; this is why, according to Heine, Claudi and Hünemeyer, the ‘traditional’ conception of bleaching is not appropriate for the characterization of grammaticalization processes, just because it “implies that its output is necessarily part of its input; that is, what happens in the course of grammaticalization is that concepts are merely reduced in their intensional content while their extension is increased” (1991:43). We disagree with their stance, and we believe that the facts that the meaning shifts involved in grammaticalization may include metaphor and also metonymy and that, ultimately, they will lead to abstraction of meaning are not in principle incompatible.

Our position on the interplay between metonymy and metaphor in processes of grammaticalization is not far from Hopper & Traugott’s. They also believe that processes as metaphor and metonymy are involved in grammaticalization, and yet they do not see this as a reason for setting aside the notion of bleaching which, as mentioned above, they see as a necessary correlate of grammaticalization. They also explicitly state that “in grammaticalization (...) the meaning will always be derivable from the original lexical meaning by either metaphorical or conceptual metonymic inferencing. Therefore, meaning changes in grammaticalization are never arbitrary” (Hopper & Traugott 2003:94-5).

Some explanation on how metaphor and metonymy are involved in the genesis of derivational affixes are due; however, we believe that the understanding of the above mentioned issue largely depends on what notions of metaphor and metonymy we assume. Going back to the Dutch example *boer* ‘farmer’ > *-boer* ‘seller of [X]N’, one could well say that metonymy is involved, as in isolating abstraction there is a conceptual association by contiguity (‘a farmer makes a living by selling agricultural

products' > 'a farmer is a seller'; cf. the features represented in 32).

Let us now review Heine, Claudi and Hünemeyer's treatment of the above mentioned Ewe *vi* 'child' > *vi* 'suffix'. We said above that one of the meanings which the suffix can convey is that of INEXPERIENCED; another meaning is that of MEMBER, "within a political, sociocultural, or geographically defined community" (Heine, Claudi and Hünemeyer 1991:85):

- (34) a. *Eβe* 'Ewe' → *Eβe-vi* 'an Ewe'
 b. *du(me)* 'village' → *dume-vi* 'a native of a village'
 c. *Tógó* 'Togo' → *Tógó-vi* 'a native of Togo, a Togolese'

Heine, Claudi and Hünemeyer suggest that the semantic structure (the body?) of 'child' consists of two basic components, namely YOUNG and DESCENDANT-OF; different "channels of conceptual expansion" are involved in the various meanings which the suffix may convey (1991:86). A metaphor from PERSON to QUALITY underlies meanings conveyed by the affix as e.g. SMALL, INSIGNIFICANT, TYPICAL BEHAVIOUR; the changes from one meaning category to another is not abrupt, but follows intermediate steps (1991:89; compare figure 3.2, p. 87). The intermediate steps "are contiguous, or metonymous, [but] they nevertheless show a relation to one another that can be described as being "weakly metaphorical" in nature" (1991:89).

What about MEMBER? According to Heine, Claudi and Hünemeyer's analysis (1991:84), "[t]here is another development that has the effect that the feature YOUNG, which forms one of the two main components of the noun *vi* 'child', is "bleached out" – with the result that the second component, DESCENDANT-OF, is generalized". Examples as those in (34) are said to be "the result of an analogical (metaphorical) transfer of the kind parents:child to community:individual (*ivi*). Another step in the chain of evolution of *-vi* which directly follows MEMBER is that termed TYPICAL BEHAVIOUR: "[t]he implicature that someone who is a member of a certain group exhibits behaviour that is representative of that group appears to have invited another conceptual interpretation, namely

that *-ví* also denotes a person who adheres to the TYPICAL BEHAVIOUR of that group” (1991:85-6):

- (35) a. *amedzró* ‘foreigner, alien’ → *amredzó-ví* ‘somebody who behaves like an alien’
- b. *amedáhe* ‘poor person’ → *amedáhe-ví* ‘a deplorable person, somebody who suffers because he or she is poor and therefore deserves pity and attention’
- c. *ameyibɔɔ* ‘black person’ → *ameyibɔɔ-ví* ‘somebody who shows a typical African behaviour, adheres to African values’

In a word as *amredzó-ví* (35a), the notion DESCENDANT-OF is no longer relevant, since the noun can refer to someone who acts as a foreigner, no matter whether he or she is or is not actually one. There are also some *-ví* derived words which have no significant difference in meaning with the underived noun, as e.g. *ha'metɔ* vs. *ha'metɔ-ví*, both meaning ‘member of a club/society’; here, “the meaning of *-ví* has been bleached out” (Heine, Claudi and Hünemeyer 1991:86).

To sum up, the process of grammaticalization of the polysemous suffix *-ví* in Ewe begins when one of the two meaning “components” (virtually equivalent to encyclopaedic features, in our opinion), YOUNG, is isolated and follows a line of semantic evolution, and another component, DESCENDANT-OF, follows another line, which leads to meanings such as e.g. MEMBER (cf. 34) and TYPICAL BEHAVIOUR (cf. 35). It seems to us that processes just described are not fundamentally different from the isolating abstraction which we invoked for Du. *-boer*, as far as the early stages of the evolution are concerned. Moreover, a development as DESCENDANT-OF > MEMBER > TYPICAL BEHAVIOUR (> null?) appears to go in the direction of further generalization (cf. what was said above about *amredzó-ví*, 35a). Also, note that such a development in meaning happens in word formation, both for *-boer* and *-ví*; the semantic connection with the lexeme *vi* ‘child’ is apparently lost once the process of grammaticalization has begun, judging from the agrammaticality of the

example below (from Heine, Claudi and Hünemeyer 1991:89; italics in the source, glosses altered):

- (36) *βu'kulá-*ví*nyé *vi*'
 driver-*ví* be child
 'A driver who has not yet acquired a driving licence is a child.'

The word *βu'kulá-*ví** 'somebody who knows how to drive but has not yet acquired a driving licence' is a derivative of *βu'kulá* 'driver'. The meaning conveyed by *-*ví** is NOT YET PASSED AN EXAM (by the metaphor YOUNG > INEXPERIENCED > NOT YET PASSED AN EXAM³⁶); one cannot equate *-*ví** and *vi*', since a *βu'kulá-*ví** is not really a child.

Having illustrated Heine, Claudi & Hünemeyer's notion of metaphorical abstraction with an example in the domain of derivation, we want to stress the fact that their "metaphor/metonymy" approach, in our opinion, does not involve anything significantly different from isolating and generalizing abstraction. Their analysis of the shift *vi* 'child' > *-*ví** involves all sorts of abstraction: isolating (cf. the 'split' between YOUNG and DESCENDANT-OF), generalizing (cf. the discussion of ex. 35a) and metaphorical. As one can see in the evolution of Du. *boer* > *-boer*, the kind of semantic shifts by contiguity which occur in isolating abstraction may be understood as metonymy. Metaphor may be invoked to account for semantic shifts in the evolution of 性 *xìng* 'inherent nature (of people and things) / immutable inner properties of things' > 性 *-xìng* 'the property of [X] / connected with [X]': we may analyse this as metaphoric extension from 'inherent nature' to '(any) property' ('importance', 'gravity', 'regularity'), with a generalizing effect.

As said before, this depends much on the conception of "metaphor" and "metonymy" which we assume. In Hopper & Traugott's treatment of Latin

³⁶ "The transition from YOUNG to NOT YET PASSED AN EXAM does not qualify as being metaphorical since the latter feature is typically associated with young people. If, however, this feature is applied to an adult, as in the case with nouns like *βu'kulá-*ví** (...), then a metaphorical relation emerges between a child and an adult having a characteristic associated with children" (Heine, Claudi & Hünemeyer 1991:89).

mente ‘mind (ablative)’ > French *-ment* ‘adverb forming suffix’ (2003:140-1; cf. the quotation from Lehmann 1995 above, this section), which according to them is an instance of grammaticalization (specifically, morphologization), they point out that in Latin you had phrases like *clara mente* ‘with a clear mind’, whereas in Modern French *-ment* is “no longer restricted to psychological senses, but is a general adverb formative”, as demonstrated by examples like *doucement* ‘softly’. This evolution could also be interpreted as metaphor, where ‘mind’ is extended to ‘way, manner’ (‘with a certain frame of mind’ > ‘in a certain way’).

Moreover, we want to point out that Du. *-boer*, Ch. 性 *-xìng* and Ewe *-ví* all evolved in a specific environment, i.e. in a fixed position inside a complex word (with selectional restrictions). In a strict (synchronic) descriptive perspective, we would just have to posit two constructional idioms underlying the words in (34) and (35):

(37) [[x]N *ví*]N ‘member of the community [X]N’

(38) [[x]N *ví*]N ‘somehow who behaves as [X]N’

These two schemas would seem to be fundamentally distinct because of the difference in meaning. If, however, we adopt a “dynamic” perspective, the connection appears quite evident; compare the (39a) and (39b) (Heine, Claudi and Hünemeyer 1991:85):

(39) a. *Tógó-tó* ‘an inhabitant of Congo’

b. *Tógó-ví* ‘a native of Togo, a Togolese’ (cf. 34c)

According to Heine, Claudi & Hünemeyer’s account, *-tó* derived words may indicate membership “not necessarily by birth”, but *-ví* should, in principle, indicate ‘membership by birth’; a word as *Tógó-ví* however is not only used in reference to a native of Togo, but may also refer to a non-native whose behaviour is that of the typical good Togolese, bearing representative characteristics as ‘calm’ and ‘peaceful’. The word formation schemas (37) and (38) are, therefore, connected; the range of potential “bases” for *-ví* complex words has increased, including not only

“communities” to which one may belong only by birth, and the number of possible (even if unattested) derivatives has increased, accordingly.

However, the problem of how to accommodate such polysemy in a CM approach is not resolved, and cases as that of *-vʹi* are not rare in the World’s languages; templates are constructions, combining form, meaning and function, and thus a change in meaning would have to correspond to a new template (which is what we proposed in 37 and 38). We nevertheless know that, in such cases, the different meanings which a polysemous affix may convey are connected (cf. the quotation from Hopper & Traugott 2003:94-5): will we, then, posit only one overarching template which may encompass all the uses of polysemous affixes, or shall we rather keep the individual schemas? We shall postpone the discussion of such issue to CHAPTER 3 (3.2.2).

To sum up, the aim of the discussion in this section was that of showing that the semantic processes involved in the evolution of a lexeme into a derivational affix are not fundamentally different from the familiar mechanisms of grammaticalization, as generalization, metonymy and metaphor. However, since the derivational phenomena considered here involve lexical/content meaning, the mechanisms of metonymy and, especially, metaphor, may operate differently from grammaticalization involving “pure” grammatical/relational categories (see Hopper & Traugott 2003:81 ff. for some examples).

Having made clear our position on the relationship between lexical derivation and grammaticalization, let us now deal with the issue of how derivation is to be related with lexicalization.

1.3.1.3 Grammaticalization and lexicalization

In 1.3.1, we have briefly illustrated how the evolution of a lexeme into a derivational affix is seen by some authors as grammaticalization and by some authors as lexicalization; sometimes, it is actually the same people who regard the very same phenomenon as grammaticalization and as lexicalization in different works (see e.g. the quotations from Lehmann). We accepted Himmelmann’s (2004) suggestion that the crucial point is whether the genesis of (lexical) derivational affixes is closer to prototypical grammaticalization or to prototypical lexicalization; in 1.3.1.2

and 1.3.1.3, we have shown how the semantic (and formal, albeit with differences) processes involved in the creation of derivational affixes are not fundamentally different from those involved in more typical instances of grammaticalization. We must now have a look at the ‘other side’ of the issue, namely the relationship between derivation and lexicalization.

Himmelman (2004) proposes that processes of grammaticalization and lexicalization may be distinguished according to three parameters:

- (i) host-class formation;
- (ii) change of syntactic context;
- (iii) change of semantic-pragmatic context.

“Host-class” refers to “the class of elements the gram is in construction with”; “syntactic context” refers to “the larger syntactic context in which the construction at hand is used”, similarly to “semantic-pragmatic context” (Himmelman 2004:32-3). In grammaticalization, which is understood here as a process involving constructions, rather than individual morphemes, host-class, syntactic context and semantic-pragmatic context are all expanded. To give an example, when demonstratives grammaticalize into articles, they do so typically when appearing before a noun; so the process regards the item in a construction (DEM NOUN → ART NOUN; Himmelman 2004:31). The shift from demonstrative to articles typically entails expansion of the host class (articles may then appear with proper names and unique entities), expansion of the syntactic context (the construction with the article may start to appear obligatorily e.g. in adpositional expressions), and expansion of semantic-pragmatic context (articles may have “associative anaphoric uses”, as “a wedding – the bride”, whereas demonstratives cannot; 2004:32-3).

According to Himmelman, in grammaticalization those three levels of expansion typically co-occur; however, it is not clear whether all of them need to be present for a process to qualify as grammaticalization. He believes that expansion of the semantic-pragmatic usage contexts is “the core defining feature of grammaticization processes” (2004:33). It is important to stress the fact that, in Himmelman’s understanding, semantic-pragmatic context expansion is neutral as to the mechanisms

involved, “whether grammaticization involves a loss of meaning or rather a transfer of meaning, whether it involves metonymy or metaphor or both, etc.” (Himmelmann 2004:39, endnote 9); the only relevant feature is that “a given construction is used in a larger set of contexts than it was used before”.

As to the relationship between lexicalization and grammaticalization, Himmelmann holds the view that they are not the opposite of one another, highlighting the similarities between the two processes: for instance, on the formal level, erosion and fusion are correlates of both processes (2004:38). As far as the semantic-pragmatic context is concerned, in lexicalization both expansion and narrowing may occur; the meaning changes are non-directional, whereas grammaticalization necessarily involves an expansion, as said above.

What is the “actual point of opposition” between grammaticalization and lexicalization, then? According to Himmelmann (2004:37-8), this is “lexical generality”:

“[i]n lexicalization a specific string of items is conventionalized. In grammaticization the process of conventionalization applies to an expression pattern consisting of at least one fixed item (the grammaticizing element which becomes the increasingly general construction marker) and a growing class of items which enter into this construction.”

If we apply Himmelmann’s parameters to the instances of genesis of derivational affixes illustrated above, it clearly appears that they resemble more grammaticalization than lexicalization. Let us have another look at the case of 性 *-xìng* ‘the quality of [X] / connected with [X]’.

First and foremost, in lexical derivation we are dealing with patterns, and not with “a specific string of items”, as is intrinsic in the notion of constructional idiom: for 性 *-xìng*, there is an increase in generality of the grammaticalizing morpheme, which can combine with an increasingly bigger set of “variables” (i.e. the [X] slot in the template); the increase may involve word classes (from nouns only to any major word class, for 性 *-xìng*) and/or semantic features (from nouns qualifying an inherent nature to any word indicating any property).

As far as the syntactic and semantic-pragmatic contexts are concerned,

it appears that in the evolution from the lexeme 性 *xìng* into an affix there has been an expansion by metaphorical extension (from ‘inherent nature’ to ‘(any) property’; compare Himmelmann’s analysis of Ger. *großer Wurf* ‘big throw’ > ‘great success or achievement’); the number of different contexts in which Modern Mandarin Chinese -性 *-xìng* complex words may be used accordingly increased.

To sum up, in this section we have shown how, according to different treatments of grammaticalization and lexicalization, the evolution of lexemes (compound constituents) into derivational affixes conveying lexical/content meaning resembles more closely typical instances of grammaticalization, rather than lexicalization.

In what precedes, our analysis focussed on the semantic aspects of grammaticalization; in the next section, we will take a closer look at the characteristic of grammaticalization processes in the languages of the area to which Mandarin belongs, especially as far as the formal correlates are concerned.

1.3.2 Grammaticalization in East and South-East Asian Languages

The languages of East and mainland South-East Asia, the area to which Mandarin Chinese belongs, are characterized by a number of common features due to prolonged contact, such as e.g. lack of inflection, lexical tone, classifier constructions (for an overview, see Goddard 2005). Some of the features of the languages from this area are especially relevant for our research since, as shown by Bisang (1996, 1998, 2001, 2004, 2008), they influence the way in which grammaticalization works. In this section, we shall illustrate the key features of grammaticalization in East and South-East Asian languages.

As mentioned in 1.3.1.1, there seems to be general agreement on the point that the change from a more concrete to a more abstract meaning generally involves an increase in ‘morphosyntactic integration’ (i.e. reduction in autonomy, cfr. Lehmann 1995, Bisang 2004:109). Bybee, Perkins & Pagliuca (1994:20) even suggest that there is a necessary link between semantic and phonetic reduction: “(...) the development of grammatical material is characterized by the dynamic coevolution of meaning and form”. The idea that grammaticalization somehow entails

formal evolution is also inherent in the notion of *cline of grammaticalization* (as defined in Hopper & Traugott 2003:6); an example of cline is that in (40) (ivi, p. 7):

(40) content item > grammatical word > clitic > inflectional affix

Clines may be significantly different from one another, but “[g]enerally, they involve a unidirectional progression in bondedness, that is, in the degree of cohesion of adjacent forms that goes from loosest (“periphrasis”) to tightest (“morphology”)” (Hopper & Traugott 2003:7).

However, Bisang observes that, for East and South-East Asian languages, grammaticalization typically does not involve “coevolution of form and meaning”, lacking thus what seemed to be almost a universal of grammaticalization. This is motivated, according to him, by some features of the languages in the area:

- a. lack of obligatory (grammatical) categories;
- b. weak correlation between lexicon and morphosyntax;
- c. predominance of pragmatic inference;
- d. existence of rigid syntactic (word order) patterns.

The absence of obligatory categories is subsumed by Bisang under the label of *indeterminateness* (2004:111-112), allowing the omission of arguments (*pro-drop* character) and of grammatical categories as number, tense and aspect for verbs, and number and referentiality for nouns. In most languages of East and South-East Asia (including Mandarin), there are no paradigms, no grammatical values of a category which must be obligatorily expressed (in the relevant syntactic context).

“Weak correlation between lexicon and morphosyntax” means that there is some degree of freedom in the usage of a lexical item, as far as its word class is concerned. The very same word may be placed, in different contexts, in the syntactic slot of a noun or of a verb (a phenomenon usually referred to as 詞類活用 *cílei huóyòng* ‘flexible use of lexical categories’ in Chinese linguistics; Jiang S. 2005:225-229, see also ZHANG Bo. 1994). For instance, Ch. 工作 *gōngzuò* may be used either as a noun (‘work, job’) or as a verb (‘to work’):

- (41) 你的工作不錯啊
nǐ de gōngzuò bùcuò à
 you DET job not-bad INTERJ ‘your job is not bad, ah’
- (42) 她工作得很好
tā gōngzuò de hěn hǎo
 3SG work DEG very good ‘she works very well’

Such freedom was much greater in earlier stages of the language; see an example from Old Chinese (Bisang 2004:114, my emphasis and glosses, characters added):

- (43) 公若曰爾欲吳王我乎
Gōng Ruò yuē ěr yù Wú wáng wǒ hū
 Gong Ruo say 2SG want Wu king 1SG Q
 ‘Gong Ruo said: “do you want to deal with me as the King of Wu was dealt with”?’³⁷

In (43), the proper name 吳王 *Wúwáng* ‘king Wu’ is used in the verb slot of a transitive predicate, between agent and patient (Bisang 2004:113). In such construction, a proper name is understood as (simplifying) ‘consider / treat s.o. as [proper name]’; since the king Wu referred to was murdered, the inferrable meaning of the sentence is ‘do you want to kill me?’.

The first two characteristics illustrated above, indeterminateness and weak correlation between lexicon and morphosyntax, are closely connected with two more characteristics of the languages of the area, namely the predominance of pragmatic inference and the existence of rigid syntactic (word order) patterns. Pragmatic inference plays an essential role in those languages which have no overtly expressed obligatory grammatical categories; rigid syntactic patterns guide the interpretation and the consequent processes (reanalysis; Bisang 2008).

³⁷ Example from the 左傳 *Zuǒ Zhuàn* (*Commentary of Zuo*), which is supposed to have been written earlier than 389 BCE.

How do the properties illustrated here influence the processes of grammaticalization in East and South-East Asian languages? One important peculiarity of the area is that grammaticalization processes do not follow (unidirectional) clines (see above); here a grammaticalized item does not show a gradual evolution from a ‘less grammatical’ to a ‘more grammatical’ function, but rather keeps different interpretations which may be “recovered” by means of pragmatic inference, which operates at all the stages of grammaticalization (and not only in the early stages, as suggested by Hopper & Traugott 2003; see Bisang 2008:21-22): “[o]ne can see the step from lexical item to grammaticalized item but it is often hard to clearly distinguish between more and less grammaticalized items” (Bisang 2008:23). This means that “one and the same marker may express different grammatical concepts in different situations or in different constructions” (Bisang 2008:16). This is made possible in the first place by the weak correlation between lexicon and morphosyntax, by which the same lexeme may occur in different syntactic environments (Bisang 2004:116-117).

The polysemy of grammaticalized items is tightly connected with another feature of East and South-East Asian languages, namely the lack of coevolution of form and meaning; such lack is caused by the indeterminateness of those languages, as pointed out by Bisang (1996:535):

“[i]n a language in which almost every grammatical category almost always can be inferred from the context, i.e., in a language where there is almost no obligatory grammatical category, even a highly grammaticalized linguistic item shows a higher degree of informative value than in a language showing a lower degree of indeterminateness. This higher degree of informative value is reflected by the fundamental phonological stability of a linguistic sign even in a context of high grammaticalization.”

An example of ‘East Asian’ grammaticalization is the Mandarin lexeme 在 *zài*, which may act as a verb, meaning ‘be (at)’ (44), as an adposition (45) or as a progressive marker (46; adapted from Bisang 2004:117, glosses altered, characters added):

- (44) 她在圖書館
tā zài túshūguǎn
 3SG.F be.at library ‘she is at the library’
- (45) 他在醫院死了
tā zài yīyuàn sǐ-le
 3SG.M at hospital die-PFV ‘he died at the hospital’
- (46) 他在穿皮鞋 (qtd. from Li & Thompson 1981:221)
tā zài chuān píxié
 3SG.M PROG put.on leather-shoe ‘he is putting on leather shoes’

Each of the different ‘identities’ of 在 *zài* is recoverable through pragmatic inference, and there are no differences in shape (no coevolution of form and meaning)³⁸.

However, the examples of grammaticalization in East and South-East Asian languages which may be found in the literature generally involve ‘typical’ grammatical categories, as tense, aspect, definiteness, and so on. What about lexical derivation? Many, if not most, of the Mandarin word formation elements which we shall take into consideration seemingly fall into the category of ‘class nouns’ (which will be discussed again in 3.2.1), defined by Bisang (1996:525) as “generic terms on a rather high level of abstraction from which more concrete nouns can be derived by further determination (cf. e.g. Engl. tree → apple tree)”. Examples of class nouns include 學 *xué* ‘scientific discipline’ (語言學 *yǔyánxué* ‘linguistics’), 人 *rén* ‘person’ (寄件人 *jìjiàn rén* ‘sender’; cf. exx. 13-14), 論 *lùn* ‘thesis’ (進化論 *jìnhuàlùn* ‘evolutionary theory’), 性 *xìng* ‘nature, character’ (不定性 *bùdìngxìng* ‘uncertainty, indeterminacy’; cf. exx. 4a-c

³⁸ Ansaldo and Lim (2004:346-347) observe that when 在 *zài* is used as an adposition (as in 45), it actually bears a weakened stress, which “may be realized as a lower tone and interpreted as such”. We are not sure whether this may be interpreted as phonetic erosion induced by grammaticalization, or just as a consequence of general trends in sentence-level prosody (for an overview, see Shen X. 1990).

and sect. 1.3.1.2), 主義 *zhǔyì* ‘-ism’ (社會主義 *shèhuìzhǔyì* ‘socialism’; Bisang 2001).

Bisang believes that class nouns are grammaticalized items, originating from nouns (1996:533, 546-547). However, he sees compounding (his ‘modification’) and derivation as points along a continuum which cannot be unequivocally distinguished: “Since these two processes are mutually related by a continuum of grammaticalization/lexicalization, a clear-cut distinction is not possible”. He further suggests that “[t]he derivational morphemes are suffixes because they are further lexicalized/grammaticalized from items in the position of class nouns”; he thus concedes that some items, as 主義 *zhǔyì* ‘-ism’, “can be described as derivational affixes”, but he fails to provide criteria for derivational status (Bisang 2001).

It appears to us the set of class nouns, as conceived by Bisang, is heterogeneous collection of word formation elements, which share some properties if looked at synchronically, namely the fact that they appear in the head position of a complex word (even a noun phrase, according to Bisang 1996), and that they have a rather abstract meaning, even though such degree of abstractness has not been clearly defined by Bisang.

However, in a constructionist perspective, class nouns may be seen as a slot in a construction, i.e. an environment in which grammaticalization not only *may* take place, but, also, is somehow facilitated. This is the idea behind the notion of ‘attractor positions’ (Bisang 1996:523-528, his italics):

“[f]rom the paradigmatic perspective, slots which *attract* linguistic items in order to grammaticalize them. In this sense, they operate as a kind of *melting pot* or as a kind of *catalyst* for linguistic items to be grammaticalized into different types of grammatical functions. If, for example, an element falls into the domain of the attractor position for TAM [Tense, Aspect and Mood] it will be grammaticalized into a TAM marker. In their paradigmatic function, attractor positions promote metaphoric processes.”

Attractor positions are defined according to their position with respect to the head noun or the main verb. Bisang represents them in ‘maximum patterns’, in which no element is obligatory but the head. These are the

maximum patterns for nouns (Bisang 1996:525, his italics):

- (47) a. CL/Q *N* CN RELN CONJN
 b. CONJN RELN CN *N* CL/Q (DEMA)³⁹

The two patterns are specular, and they differ as to the relative position of head and attributes in a given language: (47a) is the head-attributes pattern, as in Mandarin; (47b) is the opposite pattern, found e.g. in Thai.

Bisang, in the framework of *Construction Grammar* (cf. 1.2.2), assumes that constructions bear meaning, and they can both be the ‘frame’ within which grammaticalization occurs and the product of such a process (Bisang 1998:13-14): “[i]n pragmatics, constructions often provide the basic patterns for processes of reanalysis and analogy”; even a single word may be regarded as a construction. In a construction, “certain positions can attract further items into a new function by the mechanism of analogy”, and these are attractor positions (Bisang 1998:16); it is important to stress that attractor positions operate only as elements in a construction, “i.e. within a framework where several potential grammatical concepts co-operate with each other and with the semantics of the main verb or the head noun, respectively” (Bisang 1996:528).

As seen in 1.2.2, in the framework of Construction Morphology, word formation schemas, i.e. the constructions which operate in word formation, are both ‘produced’ by the language user as they encounter a certain number of words of a certain type and, also, they are employed by the user to build new words (cf. the quotation from Booij 2009:207); just as maximum patterns, they are both the product of conventionalisation (not necessarily grammaticalisation, needless to say) and the *loci* where new items may be ‘attracted’ and develop a new function. A schema as

39. Bisang’s glosses are:

CL/Q = classifier / quantifier

N = noun

CN = class noun

RELN = relational noun (expressing locative case)

CONJN = conjunctive noun (to join clauses)

DEMA = demonstrative adverbial.

(48) $[[a]_N [b]_{N_i}]_N$ ‘ N_i with relation R to X’ (cf. 18)

Which underlies all right-headed complex words with a nominal head in a given language (in our case, Mandarin, but also Dutch or English, among others), acts as a pattern just as Bisang’s maximum pattern, the difference being that here only one relation and one attractor position is present. We believe that a development such as that of Du. *boer* ‘farmer’ > *-boer* ‘seller of [X]_N’ is not different from what Bisang analyses as the grammaticalization of a class noun into a derivational suffix (as 主義 *zhǔyì* ‘-ism’); a constructional idiom, in CM terms, represents the conventionalisation of an item analogous to a class noun, i.e. indicating a rather general notion. The notion of abstractness/generality in meaning of an item, here, is not understood in an absolute (and vague) sense as by Bisang, but, as stated before (1.3.1.2), in a relative sense, as ‘being more abstract/general than the original (lexical) meaning. In 3.2.1 we shall discuss further maximum patterns in relation to their role in processes of areal convergence.

Thus, to sum up, the notions of maximum patterns and attractor positions, together with the lack of coevolution of form and meaning, are the most relevant aspects of grammaticalization in East and South-East Asian languages for our research. In the next section, we shall provide a concrete example of the differences in processes of grammaticalization in the “familiar” Indo-European languages and in Chinese, using two derivational affixes with a very similar story and analogous functions, namely Ger. *-heit*, and Ch. 性 *xìng* ‘the property of [X] / connected with [X]’, which was illustrated above (1.3.1.2).

1.3.2.1 Comparing ‘Western’ and ‘Eastern’ Grammaticalization Phenomena

In the Indo-European languages of Europe, many fully grammaticalized signs may be traced back to ‘words’, to free morphs, as Fr. *-ment* ‘adverb forming suffix’ < Latin *-mente* ‘mind’ (cf. 1.3.1). In some other cases, a lexemic ‘forefather’ of an affix is not attested, and one can only trace the origin of an affix back to another affix, usually from the mother language; this is often the case for lexical derivational affixes in Romance languages, which

inherited many of their affixes from Latin, at which stage they were already fully morphologised, as It. *-aio* ‘dealer in [X]_N’⁴⁰ (*giornalaio* ‘newsagent’) < Latin *-arius* (*piscarius* ‘fishmonger’; cf. Tekavčić 1980:28 ff.; cf. also Magni 2008). We do not want to imply that *all* derivational affixes originate from lexemes; rather, we might say that, in cases such as It. *-aio* < Lat. *-arius*, we cannot in principle exclude the possibility that the suffix was connected with an unattested lexical morpheme, possibly from some earlier, undocumented stage of the language.

For some derivational morphemes, actually, a non-lexemic origin may be easily demonstrated, as e.g. the English suffix *-ness*:

“[f]orming nouns expressing a state or condition, especially from adjectives and (originally past) participles, as *bitterness*, *conceitedness*, *darkness*, *hardness* (...), also occasionally from adverbs, such as *everydayness*, *nowness*, etc., and in other nonce uses. Also in extended senses ‘an instance of a state or condition’, as a *kindness* etc., ‘something in a state or condition’, as *foulness* etc., and in a few other exceptional uses, as *witness*” (SOED 1993, my expansions).

The suffix *-ness*, thus, is not the product of the grammaticalization of a lexeme, but, rather, originates from a verbal affix, formed by the (former) consonantal ending of the past participle form of strong verbs and the suffix for weak verbs: Old Eng. *-nes(s)*; compare Old High Ger. *-nessi*, *-nassi*, *-nissi*, modern Ger. *-nis*. It is not uncommon for verbal inflection to develop class-changing (transpositional) derivational functions, as shown in (9): Ger. [*singen*]V > [*singende*]V ‘sing-PTCP.PRS’ > [*singende*]ADJ.

In Western Germanic languages, among others, we have several instances of lexical derivational suffixes with a clear lexemic origin, as Eng. *-hood*, defined in the Shorter Oxford English Dictionary (SOED 1993; my expansions) as: “originally a Germanic name meaning ‘person, sex, condition, rank, quality’. Forming nouns of condition or quality or indicating a collection or group from nouns and adjectives, as *childhood*, *falsehood*, *sisterhood*”. The Modern suffix is the evolution of Old English *-hād*; compare the parallel Old High German form *-heit* and Old Saxon *-hēd*. In Modern German, the cognate suffix is *-heit* (*/-keit*), forming words as *Freundlichkeit* ‘friendliness’;

⁴⁰ Incidentally, we shall remark that not all Italian *-aio* derived words denote ‘dealers’, as sometimes *-aio* conveys a locative meaning (*letamaio* ‘dung-heap’; cf. Magni 2008).

according to the Wahrig dictionary, the original lexeme *heit /heid* could mean “Person, Stand, Rang, Wesen, Beschaffenheit, Art, Geschlecht” (WDW 2000:614⁴¹). Other cognate forms are the Gothic lexeme *haidus* ‘kind, manner’ (SOED; in WDW, ‘Art und Weise’) and Old Norse *heidr* ‘honour, worth’.

The Mandarin suffix which appears as functionally close to Ger. *-heit* and Eng. *-hood* (and, incidentally, *-ness*) is 性 *-xìng* ‘the property of [X] / connected with [X]’, the product of the grammaticalization of the Old Chinese lexeme 性 *xìng*, which had, among others, the meanings ‘nature, characteristic’; such development has been already described in 1.3.1.2. In short, a polysemic lexeme as 性 *xìng*, which could convey meaning as ‘inherent property’, ‘immutable nature’, ‘life’, ‘temperament’, was originally used as a free form; it then developed a usage as the right-hand constituent in complex words, and its meaning underwent generalization, from ‘inherent property’, ‘temperament’, to ‘the nature or spirit of [X]N/A/V’, and then to ‘the property of [X] / connected with [X]’, and it can be also argued that, in many cases, it may nowadays be interpreted as a mere indicator of noun class (cf. Chen 1986:89). Such generalization in meaning is accompanied by a broadening of the range of possible ‘bases’, from just nouns to any major word class. We also argued that the semantic shift from ‘inherent nature (of people and things) / immutable inner properties of things’ to ‘the property of [X] / connected with [X]’ may be analysed as metaphoric extension, from ‘inherent nature’ to ‘(any) property’ (重要性 *zhòngyàoxìng* ‘importance’).

What about the shift from Old High German *heit* to Modern German *-heit*? Such evolution has been analysed in detail in Lightfoot (2005), who uses such case as a *bona fide* example of grammaticalization. The reconstructed West Germanic noun **haid*, which was associated with the meanings ‘way, nature, appearance, property, characteristic, person, position, rank, honor, sex’, is found again in Old High German as *heit /heid*, both as a free form and as a bound word constituent (and compare the Gothic and Old Norse forms quoted above).

In Old High German texts, the tendency for *heit /heid* when used as a

⁴¹ According to the Wahrig Dictionary, the Old High German lexeme may be connected with the Indo-European root **kai-* ‘shining, bright’ (“*scheinen(d)*, *leuchten(d)*”).

free form was to express “person related meanings”, as in *dhrim heidim* ‘three persons’ (= ‘Trinity’; ex. from the Old High German *Isidor*, end of the 8th cent. CE; Lightfoot 2005:594). As the head constituent in complex words, *heit* / *heid* could convey a meaning akin to that of 性 *xìng*: compare *manaheit* and 人性 *rénxìng* (attested in the *Mencius*, 4th cent. BCE), both ‘human nature’. In Otfrid von Weissenburg (ca. 870 CE), *heit* is attested again both as a full noun (meaning ‘person, luminary’) and as a bound form in a word as *zágaheit* ‘timidity, hesitation, cowardice’, from *zag* ‘powerless, bad’; according to Lightfoot’s analysis, here *-heit* is already derivational in nature, because it is “largely devoid of meaning or simply signalling something like ‘quality of’ (...)” and “the semantic basis lies with the first element, namely *zag* ‘powerless, bad’” (2005:596). He also remarks that “[o]ne could posit the separate, analytical, nominal meanings of the two components in the latter example (i.e. ‘powerless’ plus ‘nature’ to render ‘powerless nature’), but that is perhaps lacking some of the sense of the holistic meanings like ‘timidity’ and so on” (*ibidem*).

Lightfoot also mentions the phrase *uuǝzent héit* ‘knowing person’ and the complex word *uuǝzentheit* ‘knowledge, consciousness’ (from Notker’s translation and commentary of Boethius, ca. 1000 CE). There is a clear difference in meaning between the phrase, in which *heit* is a free lexeme, and the complex word, in which *-heit* is a bound morpheme; a plural is possible for the former (*uuǝzent héite* ‘knowing people’) but not for the latter, which “seems to be good evidence for a semantic transition of the analytic interpretation moving toward the holistic, derivational one” (Lightfoot 2005:594-595). We discussed above the Early Mandarin word 急性 *jíxìng* ‘(of) impatient disposition’, from the adjective 急 *jí* ‘impatient, urgent’ (used as an attribute for people), where the meaning conveyed by 性 *xìng* is still one of its lexical meanings, namely ‘disposition, temperament’; a word 急性 *jíxìng* is also attested in Modern Mandarin, meaning ‘acute’ (associated mainly with diseases; cf. Chen 1986:89), and thus does not denote a stable characteristic (as one’s disposition); The lexemic nature of 性 *xìng* in 急性 *jíxìng* ‘(of) impatient disposition’ is also proved by the possibility of adding the

“dummy affix” (Lin 2001:82) -子 *-zi* to it: 急性子 *jíxìngzi* ‘of impatient disposition’, ‘impetuous person’ (Chen R. 1986:89). We believe that the distinction between 急性 *jíxìng* ‘(of) impatient disposition’ and 急性 *jíxìng* ‘acute’ is analogous in nature to that between *uužent héit* ‘knowing person’ and *uužentheit* ‘knowledge, consciousness’, namely between the same form used as a lexical item and as an affix. Lightfoot’s arguments for the derivational status of *uužentheit* ‘knowledge, consciousness’ are summarised below (adapted from Lightfoot 2005:595):

- a. *-heit* bears a “generalized” meaning, ‘characteristic of, quality of’ or “virtually solely functioning as a nominalizer” (cf. 30)
- b. the “semantic basis” is in the left-hand constituent *uužent* ‘knowing, conscious’
- c. the constituent mostly occurs as bound
- d. *-heit* is “in a systemic relation to other derivational suffixes”, i.e. it competes e.g. with *-tuom* (cognate with Eng. *-dom*)
- e. *-heit* is phonologically short

The semantic arguments in favour of the affixhood of *-heit* in words as *zágaheit* ‘timidity’ or *uužentheit* ‘knowledge, consciousness’ (a. and b.) are akin to those which we suggested in our discussion of grammaticalization and bleaching (1.3.1.2). The difference lies in the fact that here, again, reference is made to a notion of ‘general’ which is apparently absolute, rather than relative as we suggested: we want to stress once more the point that notions as ‘generality’ and ‘abstractness’ may not be defined precisely but, rather, are to be taken as relative, as ‘more’ or ‘less’ than another (earlier) stage. Point c. and e. are not really relevant for Mandarin, since many (if not most) lexical morphemes are bound as well, and bondedness is not a sufficient criterion for affixhood (albeit a

necessary one)⁴²; as to the size of *-heit*, in Mandarin nearly all would-be affixes are monosyllabic, just like lexical morphemes. The competition with other morphemes with an analogous function is a rather interesting point, albeit this does not happen for *-性* *xìng* which, to the best of our knowledge, has no real ‘competitors’.

It clearly appears, in our opinion, that the processes behind the grammaticalization of Old High German *heit* / *heid* into the suffix *heit*, which then survived into Middle and Modern German, are not significantly different from those described before for the development of *性* *xìng* into Mandarin *-性* *xìng*: a polysemic lexeme undergoes a generalisation in meaning, and becomes a repeated marker in a ‘word family’, i.e. a set of complex words sharing a common constituent (in CM terms, a set of words which are the instantiation of the same constructional idiom; cf. exx. 19-20, above). Such shift happens in a specific environment, namely in a fixed position in complex words with a certain type of ‘non-head’ constituents.

At the stage of Middle High German, *heit* as a full noun becomes very rare, and “[t]he norm in this era is for the abstract suffix *-heit* to mean ‘characteristic of, condition of, manner of’ as in *rîchheit* ‘the condition of being rich, wealthy’ (...)” (Lightfoot 2005:598); as said above (1.3.1.2), in a text sample of Early Modern Chinese (13th-19th cent.) analysed by Luo J. (2004:92), *性* *xìng* is more often used as a constituent in a complex word than as a free morph, whereas in Old Chinese it was typically a free form. It is also worth remarking that for some Middle High German *-heit* complex words the interpretation may be ambiguous between the lexical meaning and the ‘derivational’ meaning, as for *hübescheit* (from *hübesch* ‘well educated and mannered’), which is reported to bear the meaning ‘well educated and mannered nature’ (which Lightfoot terms “part plus

⁴² We highlighted above the parallel between *uu̇zent heit* ‘knowing person’ and *急性 jíxìng* ‘(of) impatient disposition’, on the one side, and *uu̇zenthheit* ‘knowledge, consciousness’ and *急性 jíxìng* ‘acute’ on the other side, basing on the fact that in the former, *heit* and *性* *xìng* are used in their lexical ‘identity’, as nouns, whereas in the latter they are used in their affixal identity, as proved by the difference in meaning. Note that in Old High German the distinction was also one between unbound vs. bound usage, whereas in Chinese, not surprisingly, in both cases *性* *xìng* is bound.

part” meaning), but also ‘beauty’ (Lightfoot 2005:598); this means that

“the transformation from part plus part into holistic meaning must have been an ongoing, contextually based process, since *-heit* was already often felt to signal derivational meaning in the Old High German era, yet it still could go through the same development for a form like *hübescheit*, which first came about only in the Middle High period. That is, in some cases the meaning ‘well educated nature’ likely gave way to the simple, holistic meaning of ‘beauty’ (...), and thus the cycle of compounding and suffixing could reoccur with the various fusions at various times. Ultimately, the morphosyntactic and semantic nature of *-heit* is determined by the context in which it is found”.

This is also visible for *-性 -xìng*, as shown with the 急性 *jíxìng* ‘(of) impatient disposition’ / ‘acute’ example above; compare also 忍性 *rěnxìng*, meaning either ‘to restrain one’s temper’ or ‘endurance’ (cf. footnote 31). Moreover, since the 9th century, *-heit* began to combine also with adjectives (as Middle High Ger. *wisheit* ‘wisdom’) and nominalised infinitives (*Unwissenheit* ‘carelessness’), and, generally speaking, with a broader range of nouns, including living beings (*tierheit* ‘animal kingdom’⁴³). An increase in the combinatory possibilities occurred also in the history of *-性 -xìng*; we argued that this is a consequence of its generalization, i.e. the reduction in its intensional meaning (from ‘inherent property’ to just any property), and this coincides with Lightfoot’s analysis of *-heit*.

It is also interesting to compare the fate of *heit* and 性 *xìng* as free nouns. In Modern Standard German, *heit* is no longer used as a free form, possibly because perceived as too archaic; it is in fact preserved in Bavarian, which is regarded as an archaic dialect (Lightfoot 2005:601). In Modern Mandarin too, as already said above, 性 *xìng* is never a free form. However, the original lexemic meaning of *heit* and *xìng* may still be seen in complex words, many of which have been preserved from earlier stages of the languages at issue, as e.g. Ger. *Gottheit* ‘divinity, godly nature’ (<

⁴³ Interestingly, in Modern German *Tierheit* can mean ‘animality, bestiality’. The shift in reference from ‘animal kingdom’ to ‘animality, bestiality’, i.e. the condition of being an animal reminds us of Ch. 忍性 *rěnxìng*, ‘to restrain one’s temper’ and ‘endurance’.

Middle High Ger. *goteheit*), *Christenheit* ‘Christianity’ (< *chrístanheit*) and Ch. 本性 *běnxìng* ‘inherent quality’, 任性 *rènxìng* ‘stubborn, headstrong’. Moreover, whereas in modern German *heit* is not found on the left side of a word, in Mandarin it may well be used in any position, bearing one of its lexemic meanings: 性急 *xìngjí* ‘impatient, short tempered’, 性能 *xìngnéng* ‘natural capacity, function’.

As to the phonological shape of *-heit* and 性 *-xìng*, there seems to have been no reduction, and the differences between the modern forms and those of the preceding stages of the language are due to regular sound change (as the shift from [ei] to [ai] in *-heit*): compare the distinction between the Modern English word *doom* and the affix *-dom* (see above, 1.2.2). However, since the lexeme *heit* disappeared from the language, *-heit* as a bound form is normally classified as a suffix; in a language as Mandarin, where many lexical morphemes are bound, and grammaticalization without phonological alteration is the rule rather than the exception, we rely mostly on semantic criteria to identify derivational affixes.

In this section, we have shown how the processes which lead to the evolution of a lexeme into a derivational affix may be very similar in genetically unrelated and typologically distant languages, as German and Chinese. Incidentally, in the case of Ger. *-heit* no significant phonological reduction has occurred in the process of grammaticalization, which is what we expected for Chinese (as a language of the East Asian area, cf. 1.3.2).

It might be worthwhile to explore the connection between meaning abstraction and phonological reduction, i.e. if the kind of meaning expressed in lexical derivation, which can be more ‘concrete’ than ‘pure’ grammatical meaning (tense, number, etc.), prevents reductions in shape⁴⁴. This, however, is far beyond the aims of the present work. Having discussed in detail the nature of the processes of development of lexemes into affixes in a language as Chinese, we are now in a position to

⁴⁴ Incidentally, we shall remark that phonological reduction for grammaticalized items is actually attested in Mandarin for aspect markers as 了 *-le* (perfective; cf. fn. 16) and 著 *-zhe* (progressive), which convey ‘typical’ grammatical categories.

reconsider the notion of affixoid which, as we shall see in CHAPTER 2, is a central one in the research on Chinese word formation⁴⁵.

1.3.2.2 Affixoids reconsidered

The notion of ‘affixoid’ has been introduced in the literature on word formation, seemingly, to label those items which somehow lie between compounding and derivation, possessing hybrid properties, “lexical elements caught up in such a transition of status from the constituent of a compound to a derivational morpheme” (Olsen 2000:902), as seen before (1.2.2). Examples of affixoids include, among others, Eng. ‘-ware’ (hardware), Ger. *-arm* ‘low in [X]N’ (*fettarm* ‘low-fat’), etc. The definition of affixoid we used as a starting point in our research is that of Construction Morphology, according to which affixoids are morphemes which occur both as free lexemes and as constituents in complex words (in a fixed position), but their meaning is “specific and more restricted” in word formation (Booij 2005:114), as Du. *-boer* ‘seller of [X]N’ vs. the lexeme *boer* ‘farmer’.

Another problematic category for the distinction between compounding and derivation is that of neoclassical constituents (also ‘semi-words’), bound lexical morphemes of Greek or Latin origin which have no corresponding free form, as Eng. ‘anthropo-’, ‘-logy’, etc. Whereas the notion of a bound morpheme conveying lexical meaning is somehow ‘anomalous’ for a language as English, this is not unusual for Mandarin, the lexicon of which contains many bound lexical roots, as 校 *xiào* ‘school’ or 軍 *jūn* ‘army’, which are never used in isolation (cf. the compound 軍校 *jūnxiào* ‘military academy’).

Affixes and affixoids, as seen above, share an important characteristic, namely that they both ‘exist’ only in word formation (in CM terms, as part of schemas); an affixoid may convey a certain meaning only as part of a complex word. The fundamental difference between affixes and affixoids is that the former do not have a corresponding (homophonous) lexeme in

⁴⁵ *Contra* Ten Hacken (2000:356): “(...) the idea of introducing one or more intermediate classes between derivation and compounding seems to be restricted to an episode in German linguistics of the 1970s and 1980s” (and cf. the authors quoted in 1.2.2).

the same synchronic stage of the language; thus, an affixoid is ‘promoted’ to affixal status if the connection with the lexeme is lost, either because of sound change (as Eng. *doom* vs. the affix *-dom*), or because the lexeme becomes obsolete, as in the case of Old and Middle High Ger. *heit* / *heid* (1.3.2.1).

Is a distinction based on the above mentioned criteria meaningful? Firstly, the fact that a lexeme falls out of use is, basically, an incident of history; let us compare the evolution of Du. *boer* ‘farmer’ with that of Old / Middle High Ger. *heit*. In both cases, two lexemes have acquired a specific meaning as the right-hand constituent in complex words; such meaning is ‘abstract’ enough to instantiate a productive pattern with derivation-like characteristics (cf. 1.2.2; see also Lightfoot’s criteria in 1.3.2.1). The difference between *-boer* ‘seller of [X]N’ and *-heit* (/ *-keit*) ‘characteristic / quality of [X]’, thus, is just that *boer* is still a free lexeme in the Dutch lexicon; from such a perspective, if *boer* had been ousted from the language by a competing lexeme (which is what happened to *heit*; Lightfoot 2005), we would now, most likely, consider *-boer* as a derivational suffix. The process behind the genesis of *-boer*, however, would be exactly the same. This means that ‘affixoid’ as it is defined in CM is not an intermediate category between that of derivational affix and that of compound constituent; it looks more like a *subcategory* of derivational affixes, including those elements which may still be connected to a lexeme synchronically. As far as the process of grammaticalization / morphologization is concerned, we believe that there is no difference between an affix and an affixoid.

What about the connection between sound change and affixal status? This makes sense only if one assumes a model of grammaticalization by which such a process is inevitably correlated with some degree of change on the formal level (as e.g. Bybee, Perkins & Pagliuca 1994; see above, 1.3.2, and cf. also Lehmann’s parameters, 1.3.1.1). In the latter case, we should say that only after the affixoid has undergone some sort of sound change it can be regarded as a ‘true’ derivational affix. However, since in Mandarin grammaticalization of a sign without sound change is the norm rather than the exception, such criterion proves to be inadequate.

A residual problem is that of word class. In CM, affixes do not bear a word class, which belongs to the construction as a whole (see the schema

in 21), whereas affixoids do. However, as seen above (e.g. in 19), even for affixoids the part of speech tag is attached to the construction; the difference is that, in this case, the tag is identical to that of the affixoid, since affixoids act as heads. In our opinion, this is a minor problem, especially if one regards derivational suffixes as the (categorical) heads in complex words (see e.g. Bisetto & Scalise 2007).

To sum up, we believe that we may do without the notion of affixoid, at a theoretical (rather than descriptive) level. This is because, on the one side, the processes of grammaticalization / morphologization of lexemes into derivational elements occur irrespective of the fact that the lexemes has or has not lost its connection with the newborn affix and, on the other side, the very notion of “coevolution of form and meaning” may not be applied as such to Chinese, in which even highly grammaticalized signs may retain their phonological shape (and, also, other lexical usages). The category of semiwords appears to be meaningful for the Indo-European languages of Europe, as English or Italian, in which there is a strong tendency to associate ‘lexical’ with ‘free’ and ‘grammatical’ with ‘bound’; in Mandarin Chinese, where a large number of lexical morphemes are never (or nearly never) used in isolation, there seems to be no point in positing another subclass of morphemes other than the ‘traditional’ distinctions lexical *vs.* grammatical and free *vs.* bound. Such issue will be reprised in **2.2.2**.

However, the notion of ‘affixoid’ has been employed in many works on Chinese morphology, as we shall see in the next chapter. We shall argue that this is due to the application of ‘Western’ categories and criteria in the analysis of word formation in Mandarin.