

SIGN-ORIENTED VS.
FORM-ORIENTED LINGUISTICS AND WORD-FORMATION¹

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1.1. Simplifying a great deal and abstracting from the details, it can be argued that the history of linguistics in this century until fairly recently was basically dominated by two major currents, which could be characterised by the labels that also figure in the title of this paper, i.e. "sign-oriented" vs. "form-oriented". To these a third trend must now be added, which has emerged (or, maybe more correctly, re-emerged) in the last two decades, viz. "concept-oriented linguistics". This seems to be the root of so-called "cognitive linguistics", a direction that focuses on the relationship between prelinguistic ("cognitive") categorisation and its linguistic representation, with a marked tendency towards identifying the one with the other and thus giving up the distinction between extralinguistic conceptualisation and linguistic meaning. This latter, idealistic stance could be regarded as a position diametrically opposed to the basically materialistic (asemantic) stance of "form-oriented linguistics", whereas the semiotic position of "sign-oriented linguistics" might be viewed as a compromise between these two, but is rejected by both of them, although for different reasons. Since in the following I will look at the way in which word-formation theory has been influenced by such general trends, and since cognitive approaches to word-formation are still rare² and have not yet resulted in a more

¹ This paper is based on some ideas that I had the privilege of discussing with Roger Lass and his team in Cape Town in October 1991 during a staff seminar. Since Roger at the time expressed interest in some of my ideas, I offer this little contribution as a thank-you note – not only for the wonderful time in Cape Town – but also for the many years of friendship and fruitful co-operation. Unfortunately, some more mundane (liquid and solid) aspects of all this friendship can't be included in the publication but will be remembered nevertheless (and hopefully repeated). And so says BKK.

² But cf., e.g., Górska (1994), Lipka (1996), Mettinger (1996), Szymanek (1988), Zbierska-Sawala (1993) and some others.

comprehensive framework, I will concentrate on the dichotomy mentioned in the title, and will leave the idealistic, concept-oriented trend out of consideration here, hoping to return to it elsewhere.

1.2. The first trend obviously goes back to Ferdinand de Saussure's postulate that language is a system of signs, and that signs are characterised by the fact that they have both form and content. Both the formal and the content aspects of a sign are defined negatively on the basis of its differences from other signs. But the sign as a whole, as a combination of form and content, is "un fait positif. ... deux signes comportant chacun un signifié et un signifiant ne sont pas différents, ils sont seulement distincts. Entre eux il n'y a qu'oppositions. Tout le mécanisme du langage ... repose sur des oppositions de ce genre et sur les différences phoniques et conceptuelles qu'elles impliquent" (Saussure [1973]: 166-167).

The second, formal trend is to a certain extent already reflected by the primarily formal approach to historical reconstruction in the wake of the Neo-Grammarians of the 19th century, although it did not become an explicit dogma within this framework. This was different in certain directions of American descriptive linguistics under the influence of behaviourism, beginning with Bloomfield and still clearly visible today. Within this trend, formal aspects had absolute priority, since the semantic side of language is not directly observable, and only directly observable data were considered relevant to "scientific" linguistic investigation. The most extreme formulation of this trend is found in Harris (1951, 1954), where distribution is explicitly claimed to be the only criterion for the identification of linguistic elements on every level.³ It is certainly no coincidence, therefore, that Chomsky as Harris's pupil continued this tradition, with the consequence that mainstream generative grammar has been predominantly form-oriented since its inception. This does not mean, of course, that there were no Saussureans in America and no formalists in Europe, and even apparently strict formalists like Bloomfield were not always consistent. Thus, Winter (1964: 6-7) pointed out that Bloomfield in his identification procedure of morphemes at first relied exclusively on formal criteria (Bloomfield 1935: 161, 163), but later (Bloomfield 1935: 216), when he identified *went* as consisting of an allomorph of *go* and a zero allomorph of the past tense morpheme, the criterion used for this analysis could only have been a semantic one, viz. identity of meaning. Also not infrequently definitions of the basic functional linguistic unit, the morpheme, contained some reference to meaning, cf.:

³ Cf.: "Since there is no independently known structure of meanings which exactly parallels linguistic structure, we cannot mix distributional investigations with occasional assists from meaning whenever the going is hard" (Harris 1954: 152).

Any form, whether free or bound, which cannot be divided into smaller meaningful parts is a MORPHEME (Bloch – Trager 1947: 54).

Morphemes are the smallest individually meaningful elements in the utterances of a language (Hockett 1958: 123).

But, as we shall see below in connection with series such as *contain*, *detain*, *retain*, or *consist*, *desist*, *insist*, *resist*, meaningfulness was usually not really taken seriously in actual morphological analysis. It is therefore justified to claim that on the whole American linguistics was much more form-oriented than European linguistics. This is especially striking in the field of word-formation, to which I will now turn.

2.1. Probably the most widely known sign-oriented approach to word-formation is that of Marchand (1969).⁴ His indebtedness to Saussurean linguistics is already visible in his morpheme definition, cf.:

A word, like any other morpheme, is a two facet sign, which means that it must be based on the significant/significate (F signifiant/signifié) relationship posited by Saussure (Marchand 1969: 1).

And word-formation itself is defined as "that branch of the science of language which studies the patterns on which a language forms new lexical units, i.e. words" (Marchand 1969: 2). The new words are thus sign combinations and as such necessarily morphosemantically transparent (i.e. analysable, relatively motivated), cf.:

Word-formation can only be concerned with composites which are analysable both formally and semantically ... The study of the simple word, therefore, in so far as it is an unanalysable, unmotivated sign, has no place in it (Marchand 1969: 2).

It should be added that Marchand (1969: 2) makes a distinction between composites consisting of full linguistic signs (compounds, prefixations, suffixations, zero derivations, back-formations), which he calls "grammatical syntagmas", and composites which are not made up of full linguistic signs (expressive symbolism, blending, clipping, rime and ablaut combinations, word-manufacturing). In contradistinction to Saussure he thus regards onomatopoeia as at least partly motivated. The distinction between these two types of motivation is irrelevant for the following, however, and will therefore not be discussed any further.

⁴ Another sign-oriented approach, popular especially in Romance linguistics, is the one developed by Coseriu (1977, 1982) and his pupils, e.g. Dietrich (1994), Laca (1986, 1994), Lüdtke (1978). This framework, however, does not regard the formal-morphological and the semantic aspects as equally relevant, but accords the semantic aspect absolute priority, which to me seems as problematic as the negligence of the semantic aspect in predominantly form-oriented approaches, cf. Kastovsky (1995, forthcoming).

2.2. In the light of these sign-based definitions, it is not surprising that Marchand (1969: 6) rejects an analysis of series such as *deceive*, *conceive*, *perceive*, *receive*; *consist*, *desist*, *insist*, *persist*, *resist*; *conduce*, *deduce*, *induce*, *produce*, *reduce* as bimorphemic, which was current in American descriptive linguistics.⁵ He argues that the resulting segments *con-*, *de-*, *in-*, *per-*, *re-*; *-ceive*, *-sist*, *-duce* do not have any meaning and therefore lack sign status, in contradistinction to formations such as *delouse*, *co-author*, *perchloride*, *rewrite*, etc., where *de-*, *co-*, *per-*, *re-* do have meaning.

In this connection it is important to note that this kind of analysis was later on also adopted by generative grammarians, and the resulting units were given the same status as genuine, meaningful morphemes. This is a clear indication that this model is indeed also primarily form-oriented, despite the integration of a semantic component. Thus, in Chomsky – Halle (1968: 94ff.) *de=ceive*, etc. were treated as bimorphemic in order to account for their phonological behaviour, which otherwise could not be explained in the SPE-framework. This decision at the same time necessitated the introduction of a special boundary type (“=boundary”), so that the whole argument in fact becomes circular. And in the first genuine generative contribution to the morphological aspects of word-formation, (Halle 1973),⁶ we find morphological segmentations such as *bro+ther*, *vac+ant*, *tot+al*, *serendip+it+y*, *trans+form+at+ion+al* (Halle 1973: 10), which contain “formally recurrent same”, but not signs in the Saussurean sense. Clearly, such purely form-based segmentations are not relevant to word-formation and the resulting segments will therefore also not become productive, i.e. enter into new formations. This will only happen if such units are reinterpreted as being meaningful, which was the case, e.g., with elements such as *-burger*, *-ade*, *-teria*, and, most recently, *-gate*, cf.:

- (1) a. *hamburger* > *-burger* = ‘specific dish’ > *beefburger*,
cheeseburger, *eggburger*, *mouseburger*⁷
 b. *lemonade* > *-ade* = ‘drink’ > *orangeade*, *pineappleade*, *fruitade*
 c. *cafeteria* > *-teria* = ‘shop’ > *candyteria*, *washeteria*
 d. *Watergate* > *-gate* = ‘political scandal involving the President’ >
Irangate, *nannygate*, *Paulagate*

2.3. Halle disregards this semantic aspect completely, since his segmentation rests exclusively on formal and distributional criteria. This does not allow him to express the qualitative difference between the meaningless phoneme se-

⁵ Cf., e.g., Bloomfield (1935: 109, 242), Harris (1951: 161; 1954: 152), Nida (1949: 162, 191) and others.

⁶ Lees (1960), although also dealing with compounds and derivatives, i.e. word-formation, is primarily a contribution to the syntactic, and not the morphological aspects of this field.

⁷ In actual fact, this is an Austrian newspaper coinage prompted by the discovery of a mouse in the bun that forms part of this delicious dish, but it shows the potential of the pattern.

quences *burger*, *ade*, *teria*, *gate* in the originally unanalysable *hamburger*, *lemonade*, *cafeteria*, *Watergate*⁸ and the morphemes *-burger*, *-ade*, *-teria*, *-gate* after the morphosemantic reanalysis, which produced new signs. But Marchand’s absolute rejection of any morphological analysis of such series as *deceive*, etc., on the other hand, would also seem to create problems, as was, e.g., pointed out by Ljung:

...a stem like *-duce* in e.g. *produce* ... exhibits predictable graphonemic/phonological variation in all the words of which it is a part: the pattern *produce* – *productive* – *production* recurs also in e.g. *deduce*, *reduce*, *introduce*, *seduce*, etc. Similar observations can be made for *-ceive*, *-fend*, *-ply*, and many other Latin or Neo-Latin bases. Obviously our grammar will be simplified if we treat these bases as morphemes instead of regarding each of the words in which they occur as unique (Ljung 1975: 476).

Ljung in this connection also mentions Chomsky – Halle’s bimorphemic analysis of *permit*, *repel*, etc. on phonological grounds and concludes that the definition of the morpheme as the smallest meaningful unit of the language should be replaced by “any minimal morphological unit required by the rules set up for the description of a language” (Ljung 1975: 477). This then would result in “a hierarchy of morphemes with the meaningful ones at the top and those required by the stress rules at the bottom” (Ljung 1975: 477). And it cannot be denied that such a morphological analysis allows the statement of certain subregularities in the grammar, which without it cannot be stated at all – but at the cost of multiplying the types of minimal, functionally relevant units.

There is also a diachronic argument supporting such a cline, viz. the phenomenon of lexicalisation/idiomatisation, by which originally meaningful constituents may lose their semantic identity, cf. the idiomatised vs. non-idiomatised examples (in brackets) in (2):

- (2) a. G *aufgeben*, *aufhören* (vs. *aufsteigen*), *zerstören*, *zersetzen*
 (vs. *zerbeißen*), *vertragen*, *vergleichen* (vs. *verspielen*)
 b. E *make out*, *find out* (vs. *drag out*), *make up*, *take up*
 (vs. *push up*), *butterfly* (vs. *buttermilk*), *blackboard* (vs. *blackbird*)

From a general morphological point it would indeed be problematic to treat such examples as totally unanalysable, since their morphological behaviour is predictable on the basis of the properties of the simple constituents *geben*, *hören*, *stören*, *setzen*, *tragen*, *gleich* or *make*, *find*, *take*, *fly*, *board*. Thus, if we recognise them as constituents, we simplify the morphological description. In

⁸ I assume that *Watergate* as the name of a hotel in Washington D. C. is idiomatised and has the same status as *butterfly*, i.e. the apparent constituents are pseudo-signs, cf. below.

fact, Marchand (1969: 1) himself noticed the problem in connection with the analysis of phrasal verbs such as *make out*, where the constituents behave like words, but cannot be regarded as signs proper. He therefore introduced a distinction between genuine free morphemes with sign character (= words) and so-called "free forms".⁹ These latter distributionally behave like words, but just form part of a discontinuous sign, e.g. *make...out*, i.e. do not have sign status themselves. This distinction is not, however, extended by him to the domain of prefixes and suffixes, where a similar solution might have been conceivable. The problem of meaningless but morphologically/syntactically/phonologically relevant elements is also discussed in Kastovsky (1982: 70-71) and Bauer (1983: 16), where a binary distinction between morphemes proper (with sign status) and formatives (without sign status) is proposed. It has to be admitted, however, that such a binary solution is a gross simplification, and that Ljung's concept of a scale or hierarchy of "signhood" is closer to the truth, although much more difficult to apply. Nevertheless, Marchand's assumption that only signs, i.e. meaningful elements, will become productive in word-formation patterns, is not contradicted by this problem of the demarcation between signs (morphemes) and formatives.

3.1. The influence of sign-oriented linguistics in Marchand's theory of word-formation is also obvious in other respects, e.g. by basing it on the notion of the syntagma, and with it on the notion of opposition, cf.:

Word-formation can only be concerned with composites which are analysable both formally and semantically ... a composite is a syntagma consisting of a determinant and a determinatum ... Both parts are morphemes, i.e. signs based on a significate/significant relation. In the event of full compounds, the syntagma is opposable to either morphemic element (*head-ache* to *head* and *ache*). Prefixal and suffixal composites must be opposable to their unprefixated and un-suffixated bases (*un-do* to *do*, *father-hood* to *father*), and to other composites containing the same dependent morpheme (*un-do* to *un-fasten*, *un-roll*, etc., *father-hood* to *mother-hood*, *boy-hood*, etc.) (Marchand 1969: 2-3).

From these basic assumptions several interesting consequences result. First of all, syntagmas are in principle binary structures; non-binary structures are the exception. Secondly, syntagmas are headed constructions, i.e. they consist of a head (determinatum) and a modifier (determinant). This was, incidentally, also recognised by American structuralist Immediate Constituent analysis in connection with endocentric constructions (cf., e.g., Hockett 1958: 184ff.), which were treated as headed, as against exocentric ones, which were not. This insight could at first not be incorporated into generative grammar, since the phrase-

⁹ Other terms used by him are "pseudo-morpheme" and "pseudo-sign", cf. Marchand (1969: 122, 429, 437).

structure rules of the Standard Theory generated syntactic base structures without specifying a head. And since originally word-formations were transformationally derived from such syntactic deep structures (cf. Lees 1960 and the ensuing "transformational hypothesis", cf. Kastovsky 1982: ch. 6), they could also not be described as headed in this framework. The notion of headedness was eventually introduced into the generative description of word-structures by Williams (1981), but without any reference to its pre-existence outside X'-syntax.

3.2. The centrality of the syntagma concept and of the sign-constitutive role of oppositions also has consequences for the handling of conversions (derivations without an overt derivational marker), i.e. pairs such as *cheat_N* : *cheat_V*, *father_N* : *father_V*, *clean_{Adj}* : *clean_V*. These derivatives have to be regarded as syntagmas, too, and since they stand in a formal-semantic opposition to parallel explicit syntagmas with overt suffixes, they have to be analysed not just as conversions or functional shifts from one word-class to another, but as derivatives containing a zero morpheme instead of an overt derivational suffix¹⁰ cf.

(3) *cheat-Ø_N* (: *writ-er_N*), *father-Ø_V* (: *deput-ise_V*), *clean-Ø_V* (: *dark-en_V*)

This also holds for the so-called pseudo-compounds or exocentric compounds of the type

(4) *paleface-Ø_N*, *pickpocket-Ø_N*, (: *backbench-er_N*),

which for the same reason are treated as zero-derivatives in Marchand (cf. Marchand 1969: 380ff.).

The notion of opposition, which establishes parallels between related structures not only on a formal, but also on a semantic basis,¹¹ and the syntagma concept as a frame of reference for oppositions, were not part of the American linguistic tradition. It is not surprising, therefore, that the formations in (3) and (4) were often treated as totally different from regular word-formation patterns. Thus examples such as (4) were interpreted as metaphorical extensions of regular compounds, i.e. as just involving a shift of their referential domain. And the examples in (3) were occasionally regarded as in principle non-derivational and interpreted as related by non-directional redundancy rules in the lexicon, cf. Lieber (1981) and others. The problem here is not so much whether one accepts the device of zero derivation or not – this is basically a metatheoretical-formal question; rather, the issue involved is whether conversion (or what-

¹⁰ Cf. Marchand (1969: 359); for an extensive discussion of the relevance of zero in word-formation and morphology, cf. Kastovsky (1968: 31-53; 1980; 1996).

¹¹ Note that the notion of contrast, which is used in American structuralism instead of "opposition", is again geared primarily to distribution and formal differences rather than semantic ones.

ever one might want to call this process) is derivational or not. In a syntagma-based word-formation theory, formations such as those in (3) are necessarily binary on account of the parallels to explicit derivatives, i.e. they contain some kind of implicit derivational element. Note, incidentally, that with most of these zero patterns at some historically earlier stage an overt antecedent of zero can be found, which was subsequently lost by phonological attrition, cf. Kastovsky (1980; 1996). In a basically formally oriented approach, on the other hand, one would indeed be inclined to treat such formations as totally different from suffixal derivatives, despite the semantic parallels between the two types of derivation, which would be lost in such an analysis.

3.3. In this connection, another peculiar consequence of treating the examples in (4) as related by non-directional redundancy rules in the lexicon, and not as derivationally connected, should be mentioned, viz. the analysis of prefixations such as

(5) *en-noble, de-louse, un-saddle, dis-bar*

Lieber (1981: 47ff., 1983: 252ff.) postulated a set of percolation rules, which transfer the properties of the final nodes filled with lexical entries to the dominating node, thus ultimately accounting for the overall properties of the complex lexical item in question. She furthermore assumes that all affixes with the exception of those belonging to the so-called "null-category class" (e.g. *counter-* in *counter-attack*), which do not change the word class, act as heads of the respective combination and percolate their features to the next highest branch. Since in (5) the bases are adjectives or nouns, but the resulting combinations are verbs, and since there are no other affixes present except the prefixes, it follows automatically that the prefixes must be considered the heads of the combinations effecting the category change from adjective/noun to verb. There are several rather serious problems with this purely formal, mechanistic approach, which is ultimately due to the fact that conversion is not treated as a derivational process.

First, Germanic morphology is generally right-headed, even in those instances where a semantic analysis would seem to suggest the inverse sequence of head/modifier, as, e.g., with diminutives or sex-denoting suffixes. Thus, a formation such as *Täschchen* 'baglet' would seem to be most naturally interpretable semantically as 'little bag', and *stewardess* as 'female steward', i.e. the suffix looks like the modifier. Nevertheless, from a morphological point of view it acts as head and determines the overall morphological and syntactic properties of the derivative (gender, inflectional class, pronominal reference, etc.), which are different from those of the nominal base, cf. the following examples, where the apparent semantic analysis is contrasted with the morphological one:

(6) a.	<i>Täsch / chen</i>		duke / let
	<u>modifier / head</u>	morphology	<u>modifier / head</u>
	head / modifier	semantics	head / modifier
	'bag' 'little'		'duke' 'petty'
	(= 'little bag')		(= 'petty duke')
b.	<i>Wirt / in</i>		steward / ess
	<u>modifier / head</u>	morphology	<u>modifier / head</u>
	head / modifier	semantics	head / modifier
	'landlord' 'female'		'steward' 'female'
	(= 'female landlord')		(= 'female steward')

Secondly, Lieber's analysis is internally contradictory. Thus there are formations containing both a prefix and a suffix, and with these it would not be clear which of the two should be regarded as the head, cf.

(7) *em-bold-en, de-sulphur-ate, de-gas-ify*

Thirdly, the formations in (5) and (7) are also rivalled by simple zero derivations, cf.

(8) *em-bold-en: en-noble : clean; de-sulphur-ate: de-louse: gut;*
en-capsul-ate : en-cage : bottle

which poses the question as to the morphological-semantic relationship between these three types of formation.

All these problems can of course be solved quite easily if on the one hand we treat simple zero derivation (conversion) as on a par with other derivational processes, and if we assume that zero derivation is also involved in those instances where we only have prefixes as overt derivational elements: in these formations, we have a cooperation of prefixation with zero derivation, just as we have a cooperation of prefixation and suffixation in (7). This, however, entails that the syntagmatic approach to word-formation, and with it the sign-based framework as a whole, is preferable to a purely formal approach, which tends to disregard the indispensable presence of a *signifié*.

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