Contemporary Dutch Linguistics

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representation. In particular, long vowels and diphthongs of Dutch are interpreted as sequences of two [-cons] segments, although they are single units from the phonetic point of view. In this connection, I should also mention a classical case of the phonology-phonetics distance in Dutch: the high vowels [i,y,u] behave phonologically like long vowels, although phonetically they are short (except before [r]).

Notwithstanding this reinternationalization of Dutch phonology, up to now no monograph-size generative phonology of Dutch has been published in English. We only have Booij (1981a), and Trommelen and Zonneveld (1979), an introductory coursebook.

The end of the seventies and the beginning of the eighties witnessed two major innovations in phonological theory. The first innovation concerns the structure of phonological representations. The theory of nonlinear phonology that comprises metrical phonology (Liberman and Prince 1977, Hayes 1981), autosegmental phonology, and prosodic phonology (Kahn 1976, Nespor and Vogel 1986), embodies a new view of the nature of phonological representations. They are no longer seen as purely linear concatenations of segments interspersed with grammatical boundaries, but are now conceived of as hierarchical structures. The second major step forward in phonological theory was the development of Lexical Phonology (cf. Kiparsky 1982), a theory about the place of phonology in grammar, in particular its relation to morphology and syntax. I will deal with these two innovations in detail below. The three collections of papers edited and introduced by the Dutch linguists Van der Hulst and Smith (Van der Hulst and Smith 1982; 1985) played an important role in the rapid spreading of these new ideas.

Prosodic phonology has a long history (cf. Booij 1983 for an analysis of its historical roots). Its basic claim is that segments are organized into prosodic constituents, of which the syllable is the most important and most generally accepted one. As is well known, the syllable played no role in *The Sound Pattern of English*. However, it appeared that the syllable is an indispensable concept for phonology. It is the most important domain of phonotactic restrictions, it is the domain of many phonological rules, and it is the bearer of stress, a relational property.

Dutch provides a nice case for demonstrating the necessity of the syllable as domain of phonological rules, the famous rule of final devoicing of obstruents (also called 'Auslautverhärtung'). Originally, this rule was formulated as a rule that devoices obstruents in word-final position. However, it can be shown that it should apply, more generally, in syllable-final position. This is shown by the way in which in Dutch loanwords like *Sidney* and *Toradja* are pronounced, viz. as [sItni] and [torɑtja], respectively: the *d*'s are in syllable-final, but not in word-final position. Moreover, in cases of word-manufacturing like *ABVA* (*Algemene Bond Van Ambtenaren*), the syllable-final *b* is pronounced as [p] even though the *b* is followed by a *v*. Hence, this word is pronounced as [ɑpfa] (the [f] is due to the rule of fricative assimilation mentioned above). Several other examples of the syllable as the domain of Dutch phonological rules can be found in Booij (1981a, chapter 6).

Dutch plays a prominent role in the theory of prosodic phonology as developed by Nespor and Vogel (1986), who assume a hierarchy of prosodic constituents of which the syllable is the lowest: syllable, foot, prosodic word,

clitic group, phonological phrase etc. It is impossible for me to discuss this theory in detail here. Let me only mention one particularly interesting phenomenon of Dutch which also occurs in related Germanic languages like German, and which provides evidence for the necessity of the 'prosodic word': conjunction reduction in complex words. The facts are as follows (cf. Booij 1985 for a detailed analysis): in Dutch we can omit parts of complex words in coordinative constructions provided that these parts are independent prosodic words. Consider the following examples:

(1)	*minimum-* 'minimum amounts	*en maximumbedragen* and maximum amounts'
(2)	*ijs-* 'ice bears	*en bruine beren* and brown bears'
(3)	*rood-* 'red-like	*en groenachtig* and green-like'
(4)	**rod-* 'reddish	*en groenig* and greenish'

In (1) the right constituent *bedragen* of the first compound has been deleted under identity with the right constituent *bedragen* of the second compound. In (2) the right constituent *beren* of the compound *ijsberen* has been deleted under identity with the independent word *beren*. In (3) the suffix *-achtig* has been deleted under identity with the second *-achtig*. In (4), on the other hand, deletion of the first of the two identical suffixes *-ig* is impossible. All these possibilities and impossibilities of deletion follow from one rule: delete the first of two identical prosodic words. As for (1), it can be shown that the constituents of compounds are independent prosodic words, because in compounds the internal morphological boundaries always coincide with syllable boundaries. This implies for (2) that the strings *beren* are identical from the prosodic point of view. The suffix *-achtig* in (3) is also an independent prosodic word, since we always find a syllable boundary before its initial vowel (unlike what the universal Maximal Onset Principle would predict): the syllabification pattern of, for instance, *roodachtig* is *rood-ach-tig*, not *roo-dach-tig*. Consequently, final devoicing applies to the *d*. On the other hand, the suffix *-ig* is not an independent prosodic word (it cannot be, since a prosodic word requires at least one full vowel--the *i* stands for a schwa). Hence, *rodig* is syllabified as *ro-dig*, and the *d* is not realized as [t]. Moreover, since *-ig* is not an independent prosodic word, it cannot be deleted in coordinative constructions.

The revival of interest in syllable structure has also resulted in two monographs on the syllable structure of Dutch, Trommelen (1983) and Van der Hulst (1984). The latter also deals with the Dutch stress system, which is still in the focus of ongoing research in the Netherlands. Dutch stress is a very complicated phenomenon for two main reasons. First, the words of Dutch differ in their historical origin: some of them are of Germanic origin and hence exhibit word-initial stress, whereas others are of Greek/French

perhaps unique characteristic of Dutch morphology, as is also clear from the 1981 Festschrift for Uhlenbeck (Al et al. 1981) and from Van Marle (1985).

During the sixties and the beginning of the seventies the morphology of Dutch was a rather neglected area of research, due to the predominance of generative grammar, and in particular the transformationalist theory of word formation which denied the existence of a separate morphological component in the grammar. The lexicalist theory of word formation as developed in Halle (1973) and Aronoff (1976) gave a new impetus to morphological research in the Netherlands. In my dissertation *Dutch Morphology. A Study of Word Formation in Generative Grammar* (1977) I aimed, among other things, at integrating the findings of the Dutch morphological tradition into a theory of the morphological component of the (generative) grammar of Dutch. Another reason why I undertook this study is that in the *Sound Pattern of English* type of phonology, morphology functioned as an 'ancilla phonologicae', i.e. assumptions about the morphological structure of words were only motivated by the needs of phonology, not by morphology-internal considerations, clearly a methodological weakness of this kind of phonology.

One of the most central issues in American lexicalist morphology is that of affix order, and more generally, that of restrictions on affix combinations (cf. for instance, Siegel 1974, Kiparsky 1982). This is to be expected, given the American view of morphology as the syntax of morphemes. In particular, the theory of level (or stratal) ordering plays a dominant role. This theory claims that the morphological rules of a language (in particular English) can be divided into a number of ordered levels. For instance, it has been claimed for English that all stress-shifting suffixes belong to the first level, whereas stress-neutral suffixes belong to level 2. Hence, the prediction is that in English stress-neutral suffixes are always peripheral with respect to stress-shifting ones.[5]

What is the nature of the Dutch contribution to this debate on affix ordering? Schultink (1977, 1980) showed that the model of level ordering, as devised for English, cannot be transferred to a language like Dutch, because Dutch allows for stress-neutral suffixes following stress-shifting ones, as illustrated in (6):

(6) *mólen* 'mill' *mólen-aar* 'miller' *molen-aar-és* 'fem.'
wéten 'know' *wéten-schap* 'science' *weten-scháppelijk* 'scientific'

Booij (1982) argued that the order of Dutch suffixes should not be accounted for in terms of level ordering. This order follows from (i) the syntactic and other selectional requirements put by suffixes on their base words, and (ii) from the principle that nonnative suffixes only attach to nonnative stems, whether they are simplex or derived (Booij 1977:131-39). The latter principle is illustrated in (7) for the nonnative suffix *-iteit* '-ity'. In (7a) it is shown how it combines with simplex adjectives, in (7b) how with derived adjectives:[6]

(7a) *banaal* 'banal' *banaliteit* 'banality'
groen 'green' **groeniteit* 'greenity'

(7b) *grammatik-aal* 'grammatical'
grammaticaliteit 'grammaticality'
groen-achtig 'greenish'
**groen-achtig-iteit* 'greenishity'

Since most native suffixes are stress-neutral, and most nonnative suffixes are stress-bearing, the predicted order will be that of stress-neutral suffixes following stress-shifting ones. However, in the crucial case of stress-bearing native suffixes, it is only principle (ii) above that makes the right predictions. For instance, the native suffix *-es* bears main stress, and can be added after a stress-neutral suffix like *-aar*: *molen-aar-és*. Note that principle (ii) is motivated independently, because it also bears upon combinations of simplex stems with one suffix![7]

Another recent contribution to the analysis of morphological structure is the empirical evidence gathered by Trommelen and Zonneveld (summarized in Trommelen and Zonneveld 1986) for the claim that suffixes can function as the heads of complex words (a formulation that reflects the idea of morphology as morpheme syntax). In Dutch, many suffixes determine the syntactic category, the gender (*de* or *het* as article) and the choice of plural suffix (*-s* or *-en*) of the words that they create. This is illustrated in (8) for the Dutch diminutive suffix *-tje* (and its allomorphs):

(8a) syntactic category N: $[[traan]_N tje]_N$ 'little tear'; $[[geel]_A tje]_N$ 'banknote of f.25-'; $[[speel]_V tje]_N$ 'toy'; $[[toe]_P tje]_N$ 'dessert';
(8b) gender: *het*-word: *het mann-etje* 'the little man' (compare *de man*);
(8c) choice of plural suffix: always *-s*, although simplex words in *-e* can choose between *-(e)n* and *-s*: *kades/kaden* 'quays' but *laatjes/ *laatjen* 'little drawers'.

As pointed out above, the Uhlenbeck-Schultink tradition of Dutch morphology focused on the paradigmatic dimension of word structure. This approach was recently taken up again by Van Marle in his dissertation *On the Paradigmatic Dimension of Morphological Creativity* (1985; cf. also Van Marle (1986)). In this study Van Marle deals with the problem of how competing morphological processes interact, a typically paradigmatic problem. For instance, Dutch has the following derivational suffixes for the coining of female nouns:

(9) *-in: boer-in* from *boer* 'farmer'
-es: prins-es from *prins* 'prince'
-ster: herbergier-ster from *herbergier* 'inn-keeper'
-e: gids-e from *gids* 'guide'

Van Marle then shows that we should distinguish here between special (or restricted) cases and a general case. Of these four suffixes, the first three are restricted ones: they can only be added to a specific set of personal names.

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