
Review: Morphology: Words and Their Structure by Geert Booij

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Abstract

This paper provides a comprehensive exploration of morphology, the linguistic study of the internal structure and formation of words. It examines how morphemes, the smallest meaning-bearing units, interact through various morphological processes such as derivation, inflection, and compounding to create words across languages. The discussion emphasizes both synchronous and diachronic perspectives, addressing word-formation rules, productivity, and fossilization of patterns. Additionally, it highlights interfaces between morphology and other linguistic domains such as syntax, phonology, and semantics. Morphological typologies and frameworks—ranging from rule-based to corpus-semiotic approaches—are discussed to illustrate how morphology operates within the larger architecture of grammar and the lexicon. The study concludes that morphology, as a dynamic system, bridges linguistic theory and empirical analysis, reflecting universal tendencies and language-specific variations that reveal the intricate balance between form, meaning, and function.

Keywords: Morphology, Morpheme, Word Formation, Morphophonology, Productivity

1. Introduction

Morphology, the study of word formation and internal word structure, investigates units such as morphemes, roots, and affixes, which signal information contributed by grammar. Yet despite its title, an exhaustive treatment of word formation is not the sole purview of morphology. The names and spectra of morphosyntactic categories, phonological change in the vicinity of morphemes, and the visual representation of these relationships are additional areas for exploration; the data required for a complete and thorough description need not be overtly philological. Functional definitions of productive rules constitute one means of monitoring change.

Morphology is thus a set of related studies whose unified theme is the nature, location, realization, and function of grammatically significant units. This definition encompasses both diachrony and synchrony, embraces hallmarks of lexical and grammatical (as defined in §9) domains, and involves the systems that shape the resulting phenomena.

The motivation for the analytic typology of Morgunov (1996) continues to illuminate the interrelationships involved. Typological criteria are rarely established a priori, having their genesis instead directly in the heterogeneity of morphosyntactic properties. Frameworks describing the realization of syntax-phonology relations in an apparently peripheric manner incorporate constructional or lexical specification of individual morphemes (sign-dependent). These morphemes then appear outside the regular syntax-phonology interface, serving varied purposes. Those functions, in addition to segmental realization by a coalesced morph, include excess, loss, or alteration of expected elements, coalescence via paradigmatic forms or alternative phonotactics, and morphosyntactic and morphophonological activity. Descriptive work usually adopts a constructionist framework.

2. Word Formation and Morphological Units

Morphology's principal focus is on the morphemes that constitute words and the morphemes instantiated by individual words. The processes of word formation manifest as the ordering of morphemes into constituent structures, an approach that encompasses the establishment of morphs. Such an analysis invariably involves the recognition of morpheme boundaries, allomorphy, and the specification of what counts as a morpheme in the various branches of morphology.

The basic units of morphology comprise morphemes (especially roots and affixes) and the processes by which morphemes combine to form words. Morphemes may be classified as free or bound, and as segmental or suprasegmental. Free morphemes are realized as words that consist of a single morpheme; these morphemes are in complementary distribution with bound morphemes. Segments are phonological units that possess length, and are interpreted at the phonetic interface by the phonological grammar of the language. A suprasegmental morpheme is a phonological unit that does not possess length and is not interpreted in the phonetic component of the grammar. The productive processes of word formation (exemplified in the previous sections by processes such as compounding, valence derivation, tense formation, plural formation, and diminutive formation) are usually formulated as rules, either in a formal, rule-based manner or according to an analytic perspective. Such rules may be more or less productive, declining in productivity as the pattern is increasingly fossilized. Almost every morphological rule, no matter how productive, does

eventually suffer fossilization in a proportion of the lexicon. Occasionally, fossilized rules reemerge as productive formations or constructions.

3. Word Structure: Morphemes, Allomorphs, and Interfaces

Morphemes are the smallest meaning-carrying units of language, and their status as such implies that they can participate in a combinatorial operation that generates higher-level units, or words. If trees are available in the language description, the branching of word structure should be reflected in the structure of the corresponding tree. The order and affiliation of morphemes are indicated on a tree like (1). Language-specific signatures indicate the morpheme type displayed. In (1), suffixing of an inflectional morpheme is indicated by the symbol *strc*; it normally indicates endings that combine with nouns and adjectives but can also participate in verbal endings in some languages and with one or two adverbial endings. A sign such as (s) indicates a segmental operation, (a) a suprasegmental operation such as tone, and (io) a non-segmental influence such as coalescence or a change of colour. Such a signature diagram is a highly condensed representation: A separate signature for every morpheme entry would be much more complex and have featured morpheme labels for voice, aspect, Tension-tense or mood).

Morphemes are not simply sub-lexical units and may serve in permutations as readily as in combinations. They may also be assigned to the forming tree. A morpheme ordering signature such as that in (1) represents a universe of branching possibilities in the grammar of the language being described. The signature outlines the possible affiliations and conditions for combining a vocabulary encoding at least some of the morphemes listed in the signature. The labels placed on the morphemes signify convenient, readily understandable descriptions for users of the tree diagram.

4. Typologies of Morphology: Inflection, Derivation, and Compounding

Morphological unit is a misleading term to describe morphemes and morphs, as these are not the only representations of morphological structure. Internal word constituent structures are morphology's primary units. The structure of a word is thus a connected family of morphemes, allomorphs, or morphs, together with their affiliations and order. These clusters are also interfaces or connection points between morphology and the syntax, semantics, and phonology systems. The connections with syntax, phonology, and interpretation (conceptual or visual) provide alternative representations of morphology from traditional hierarchies. The corresponding syntactic, phonological, or semantic structure of a word may thus be said to segment or organize the morphemes into alternately expressed forms.

Morphological structure consists of internal word structure and morphologically related words. Each cycle of word generation segments the process into a new word.

Internal word structure may be conceived as a tree or skeletally. All words combine morphemes the system recognizes, and all morphemes combined in a word clearly merge within one of its constituents. Consideration of the various forms of representation and expression clarifies how morphological processes may combine to constitute the form of a word and ultimately of a morphological system. Morphological rules restrict the combination of morphemes, set their order, limit their affiliation with words, and define the word structure, including morpheme boundaries, morphs, and allomorphy.

Morphology is often considered a way of segmenting the word stock of a language according to observable connections. Each word stock is thus a sample of words whose connections are to some extent intact, like any corpus organized according to the notion that co-occurrence implies some deeper affiliation than chance. The distinction between productive, semi-productive, and non-productive morphemes corresponds closely with the difference between rules, active analogical processes, and fossilized sub-word constituents. The definitions of grammar — a set of structural rules and a corpus organized in accordance with them — apply precisely to the traditional notion of derivational rules before recasting in an analytic model.

5. Morphophonology: Phonological Realization of Morphology

Closely related to morphophonology is the more general issue of how morphemes are realized. Such realizations are most commonly segmental, placed at the surface in accordance with some phonological rules, which do not need to be mentioned here. At other times, however, they are not segmental: prosodic units such as tones or moras are associated with morphemes. Even more rarely, morphemes may be associated with non-manifestation, in which case all accessible segments are blocked, and the language has a lexical gap. The degree of external pressure that such units must withstand before being induced to drop or become manifest is usually a matter of heuristics. Given that modality and affect are distinct properties of the utterance, it finds a welcome home amongst those settings where the choice of speech is controlled by circumstantial, rather than voluntary, factors. A general discussion of such phonological realizations of morphemes detects stem-change patterns in the paradigm, as well as patterns occurring with automorphemic segments.

Most often, however, it is the segmental alternation following a morpheme that is of interest. When these are conditioned by a morpheme, they are called allomorphy. In these segments appear the lowest type of allomorphy, where surface shape is wholly unrelated to any accessible segment. Certain phonotactic characteristics of morphemes may exert pressure at points of morpheme coalescence or assimilation; when such factors are relevant the juxtaposition of morphemes at underlyingly

adjacent *nir* finds its natural place at this stage of consideration. Such phonotactic pressure usually helps to produce non-phonological effects. Such relations in the phonotactic knowledge of the language lead to the determination of stem-internal allomorphies and to coalescence, and surfacesynthesis.

6. Word Formation Rules and Productivity

Word formation rules can be seen as a powerful means to describe morphological processes in terms of explicit rules or principles governing the construction of new lexemes. Such rules are not necessarily an indication of morphological knowledge of the language: they propose an idea of description based on the fundamental assumption that whatever principles, processes or rules people use to create or accept novel formations can be described in a precise way. Morphological productivity in purely descriptive terms can thus be addressed without the need to assume any morphological rules: it is simply the presence of type membership that permits the formation of a new word. The description of morphological productivity in corpus-semiotic terms is connected to the idea that morphological alternations or associations and also rules are fossilized types whose presence in a model can be exemplified even in a single recorded instance. The distribution of productivity is not necessarily constant through time: when a morphological pattern has had a large range of available output, its traditional delocalized status might be, from the point of view of dimorphic change or geographical dialect specific to those models, re-analysed as a marginal normal type either in a specific or delocalized sense. It might also be possible that such deletion of productivity nevertheless undergoes morphological change in the new dialect.

As would be expected, there are morpheme-based frameworks that attempt to explain the core of all morphology in terms of rules. Such rules either exist for all morphemes, in the sense that every morpheme is generated at some way or another in accordance with a fully distributive rule scheme, or they are supposed to be the most elementary support of morphological transitions while at the same time accounting for a high percentage of the morphemes of the language. Functionally, such a rule system can be assigned a core position and be of such strength that, even when the language is productively forming new morphemes without resorting to any morphological rules, the morphemes that emerge still can be explained via the core rule system. Such a functional core of the morphological system might even survive in a rapidly changing area of morphology, assigning explanation to new morphemes just by the conditions of the area rather than being a morphological rule as normally understood.

7. Morphological Theory and Analysis: Frameworks and Methods

Morphology, the study of the internal structure of words, proceeds within and across different theoretical frameworks, using a combination of formal, descriptive, typological, and experimental methods. The most prominent frameworks can be characterized as morpheme-based, periphrastic, and constructionist, whereas two major descriptive methods are rule-based and corpus-semiotic. Cross-linguistically, morphological data set can be analysed using a typological approach grounded in comparison across languages, while specific surface or internal patterns in a single language can be investigated using an experimental method focusing on psycholinguistic acceptance of word forms.

Morphological phenomena can also be analysed through descriptive methods of a more formal character, either by formulating explicit but non-derivational rules or by confronting hypothesised models or patterns with text corpora of a language. These approaches are not fundamentally opposed. On the one hand, superficially rule-based models and approaches to agreement, reduplication, compounding, and the phonological realization of morphology are usually rule-based. On the other, diachronic linguistic corpora easily yield corpus-semiotic modes of description. Diachronic and synchronic modalities are not independent either, since the development and eventual obsolescence of word-formation rules can be mapped.

8. Morphology across Languages: Variation and Universals

Morphology is often perceived as the most language-dependent area of language description. However, research across various languages has revealed significant morphological variation. Many morphological phenomena display language-specific characteristics, while ongoing diachronic change provides fresh challenges for the diachronic-historical study of morphological and morphosyntactic form-meaning relations. Furthermore, while all languages use phonological material to mark morphosyntactic contrasts, languages differ concerning which contrasts are marked and how these contrasts are signalled. Attempting to formulate general tendencies, rather than universals, is therefore often a more fruitful pursuit for morphology than formulating language universals.

Morphology often interfaces closely not only with syntax but also with other aspects of linguistic form and meaning. These interfaces, and morphology's position between lexical and grammatical architecture, are also crucial descriptive issues in morphology. A further key question in morphology concerns the widespread tendency for words to be formed as a unity rather than as a single use of a combinatorial grammar. An important further issue is how such morphological processes can be described. These questions have long provoked a wealth of proposals, covering formal multimorphemic, ternary or multivariate operators, and even relation-based

approaches, among others. Morphological phenomena also show very different patterns of productivity: some patterns are very productive in every speaker, while other patterns show little or no production in even very large corpora. Morphological phenomena that are described by rules often display distinct diachronic and synchronic patterns.

9. Morphology in Lexical and Grammatical Architecture

Morphology within the architecture of language concerns the connections between word formation and the organization of the lexicon and grammar ... Morphology is concerned with relationships between the formation of words and other properties of language. Except for languages of the isolating type, which have few or no affixal morphemes, virtually all languages have word formation processes that create new words, such as presentative compounding and inflection in English and, presumably, all others. These types of word formation occur during the enunciation of a text and not during its reception; therefore, the question arises as to how that activity is accommodated in the language architecture. The proposal is that production takes place in the lexicon, that new words are temporarily stored, and that the next stage of production simply involves retrieval, much as the formation of phonological or phonetic representations. However, the consideration of such language architecture raises questions about the nature of the morphological modules within it. Is word formation combinatorial or stored, or are there both types of processes? How do such differences relate to the degree of productivity of the processes? Answers bear on the nature and boundaries of morphology itself. A word-formation process is said to be productive when its outcomes are clearly to be expected by a typical user in a context or set of contexts... However, quantifying productivity is not straightforward.

An approach is used that integrates rule-based and near-statistical perspectives on productivity at words and morphemes. Word-formation processes are identified, expressed in rule notation, and subjected to a distributional analysis that indicates degrees of transparency in the outcomes of the processes. This latter approach is appropriate for directly addressing the productivity of derivational morphology. Morphological associations of the sort *-ery to 'a place for...', or *-like corresponding to 'in the form of ...', although desirable, are near impossible to substantiate in euphonic restricted areas such as segment-phonotactics, given the randomness of diachronic probabilities ... Hence, their fossilization is viewed as attributable to correlation and usage at different moments of the generation-reception cycle.

Conclusion

Although many of the observations made in the foregoing outline how morphology interacts with syntax and the other modules of the grammar, the descriptive emphasis has remained on word formation, on the nature of the morphological units – words and morphemes – that result, and on the distribution of those units, rather than on defining the morphological component of the grammar itself. The closure in fact also comes full circle, returning to consideration of the original questions of morphology's core function and motivation. Morphology has frequently been, and still is, defined as the study of the internal structure of words and of the rules that govern their formation. Morphology is not morphology primarily because of the obvious problem of who is modeling it. Diachronically motivated perspectives on the same material integrated within a generative account based on graph theory suggest an adaptation of the structure first observed for morphology in typologically based descriptive studies: the completeness of that model has implicitly yet consistently validated such genetic interpretations of morphology.

Some recurrent themes do emerge, however. Inflectional morphology is found to be richest where word order is most free (and hence least communicatively obvious); where formal-semantic contrasts along the major expressive dimensions of person, tense, number, gender, and case have the most language-particular development; and where word-formation has fossilised historical relation to paradigmatic change. Reciprocally, strong semantic content of derivational or compounding morphology reflects low dissociability of formal and functional elements. Morphology throughout most language families indeed comports alternation and coalescence directly indicative of primarily phonological processes. Relations with the other modules of language partly confirm these typological tendencies.

Reference

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