

Advanced Morphology

MA Course in English Language and Linguistics

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Morphology is the study of the internal structure of words.

It did not emerge as a distinct sub-branch of linguistics until the nineteenth century. Early in the nineteenth century, morphology played a pivotal role in the reconstruction of Indo-European.

In 1816, Franz Bopp published the results of a study supporting the claim, originally made by Sir William Jones in 1786, that Sanskrit, Latin, Persian and the Germanic languages were descended from a common ancestor. Bopp's evidence was based on a comparison of the grammatical endings of words in these languages.

Later, under the influence of the **Darwinian theory of evolution**, the philologist Max Muller contended, in his Oxford lectures of 1899, that the study of the evolution of words would illuminate the evolution of language just as in biology morphology, the study of the forms of organisms, had thrown light on the evolution of species. His specific claim was that the study of the 400--500 basic roots of the Indo-European ancestor of many of the languages of Europe and Asia was the key to understanding the origin of human language.

Such evolutionary pretensions were abandoned very early on in the history of morphology. In this century morphology has been regarded as an essentially synchronic discipline, that is to say, a discipline focusing on the study of word-structure at one stage in the life of a language rather than on the evolution of words.

MORPHOLOGY IN AMERICAN STRUCTURAL LINGUISTICS

Adherents to American structural linguistics, one of the dominant schools of linguistics in the first part of this century, typically viewed linguistics not so much as a 'theory' of the nature of language but rather as a body of descriptive and analytical procedures.

Ideally, linguistic analysis was expected to proceed by focusing selectively on one dimension of language structure at a time before tackling the next one. Each dimension was formally referred to as a linguistic level. The various levels are shown in the following figure:

Semantic level: I deals with meaning



Syntactic level: deals with sentence-structure



Morphological level: deals with word-structure



Phonology (or phonemics): deals with sound systems

The levels were assumed to be ordered in a hierarchy, with phonology at the bottom and semantics at the top. The task of the analyst producing a description of a language was seen as one of working out, in separate stages, first the pronunciation, then the word-structure, then the sentence structure and finally the meaning of utterances.

In the early days, especially between 1920 and 1945, American structuralists grappled with the problem of how sounds are used to distinguish meaning in language. They developed and refined the theory of the phoneme.

As time went on, the focus gradually shifted to morphology. When structuralism was in its prime, especially between 1940 and 1960, the study of morphology occupied centre stage. Many major structuralists investigated issues in the theory of word-structure

One of the structuralists' main contributions was the recognition of the fact that words may have complex internal structures. Whereas traditionally linguistic analysis had treated the word as the basic unit of grammatical theory and lexicography, the American structuralists showed that words are analyzable in terms of morphemes. These are the smallest units of meaning and grammatical function. Previously, word-structure had been treated together with sentence-structure under grammar. The structuralists introduced morphology as a separate sub-branch of linguistics. Its purpose was 'the study of morphemes and their arrangements in forming words'.

THE CONCEPT OF CHOMSKYAN GENERATIVE GRAMMAR

the linguistic model of generative grammar is initiated by Chomsky.

The central objective of generative linguistics is to understand the nature of linguistic knowledge and how it is acquired by infants. In the light of this objective, a fundamental question that a theory of word-structure must address is, 'what kinds of information must speakers have about the words of their language in order to use them in utterances?' Attempts to answer this question have led to the development of sub-theories of the lexicon (i.e. dictionary) and of morphology.

- According to Chomsky (1980, 1981, 1986), the central goal of linguistic theory is to determine what it is people know if they know a particular language. Chomsky observes that knowing a language is not simply a matter of being able to manipulate a long list of sentences that have been memorized.

Rather, knowing a language involves having the ability to produce and understand a vast (and indeed unlimited) number of utterances of that language that one may never have heard or produced before. In other words, creativity (also called productivity or open-endedness) is an aspect of linguistic knowledge that is of paramount importance.

Linguistic creativity is for the most part rule-governed. For instance, speakers of English know that it is possible to indicate that there is more than one entity referred to by a noun and that the standard way of doing this is to add -s at the end of a noun. Given the noun *book*, which we all have encountered before, we know that if there is more than one of these objects we refer to them as *books*.

Speakers of English have tacit (implicit) knowledge of the rule which says 'add -s for plural' and they can use it to produce the plural form of virtually any noun.

generative grammar is a system of explicit rules which may apply recursively to generate an indefinite number of sentences which can be as long as one wants them to be. Recursiveness has the consequence that, in principle, there is no upper limit to the length of sentences. A grammatical constituent like a noun phrase (NP) or a prepositional phrase (PP) can contain an indefinite number of further constituents of that category as in the sentence:

John saw the picture of the baby on the table in the attic.

The recursion can be seen clearly in the tree diagram representing that sentence. As seen, NPs can contain NPs and PPs which in turn contain NPs which can contain NPs and PPs: p.6

One of our concerns will be to determine whether morphology should be recognized as a separate linguistic level (or module) that is independent of syntax and phonology. Do morphological rules have certain properties which they do not share with rules in other parts of the grammar? Are recursive rules of the kind found in syntax needed in morphology?

There are morphological processes which are similar to syntactic processes. For instance, certain adjectives which describe periods in history, such as industrial, can have the prefix *post-* before them as in *postindustrial*. And, given the adjective *post-industrial*, we can place another *post-* before it to yield *post-post-industrial*. Clearly, the word-formation process we witness here is recursive. We have the rule attaching *post-* to a word reapplying to its own output. This raises an interesting question: **if morphological rules that build words are similar to syntactic rules that build sentences, what reason is there for assuming that morphology is essentially different from syntax?**

Here, terms *grammar* and *rule of grammar* need to be clarified. These terms are used by linguists in four distinct senses:

Firstly, in generative linguistics 'grammar' can refer to the implicit, totally *unarticulated knowledge* of rules and principles of their language that people have in their heads. This tacit knowledge enables them to distinguish between well formed and ill-formed words and utterances in their language. For example, many English speakers may not be able to explain in an articulate manner why it is 'correct' to say *a grain* but 'incorrect' to say *a oat*. Nevertheless, their knowledge of English grammatical structure enables them to determine that the former is correct and the latter is not.

Secondly, whereas in traditional approaches 'grammar' only includes morphology and syntax, in generative linguistics the term grammar is employed in a much wider sense. It covers not only morphology and syntax but also semantics, the lexicon and phonology. Hence, there are rules of grammar in every linguistic module. Phonological rules, morphological rules, syntactic rules and semantic rules are all regarded as rules of grammar.

Thirdly, grammar and rules of grammar may refer to a book containing a statement of the rules and principles inferred by linguists to lie behind the linguistic behaviour of speakers of a particular language. These rules simply describe regular patterns observed in the linguistic data.

Lastly, some grammars are books containing prescriptive statements. Such grammars contain rules that prescribe certain kinds of usage. Outside linguistics this view of grammar is still prevalent. The reason for this is clear. In everyday life rules are normally mechanisms for regulating behaviour- **the behaviour of pupils in a school, members of a club, inmates of a prison**, etc. In many traditional pedagogical grammars rules serve the same purpose. They are statements like

'A sentences must not end with a preposition.' They prescribe what the 'officially or socially approved' usage is - in the opinion of the grammarian.

In much of modern linguistics, however, rules have a different function. They are not prescriptions of behaviour which the grammarian imposes on speakers, but rather they are statements of principles responsible for the observed regularities in the speech or writing of users of a particular language. The characterisation of regularities in observed patterns of usage is what the American structuralists regarded as the **primary objective of linguistic investigations**. Their grammatical rules were descriptive statements like 'The article precedes the noun in the English noun phrase.' This statement reflects the fact that *the book*, as in *I read the book*, is allowed whereas **book the*, as in **I read book the* is disallowed. (An asterisk indicates a disallowed form.)

Chomsky has shifted **the focus of linguistic theory from the study of observed behavior to the investigation of the knowledge that underlies that behavior.** In generative linguistics rules are intended to go beyond accounting for patterns in the data to a characterization of speakers' linguistic knowledge. **The primary objective of generative grammar is to model a speaker's linguistic knowledge.**

Chomsky characterizes linguistic knowledge using the concepts of *competence* and *performance*.

Competence is a person's implicit knowledge of the rules of a language that makes the production and understanding of an indefinitely large number of new utterances possible.

performance is the actual use of language in real situations.

Chomsky proposes that competence, rather than performance, is the primary object of linguistic inquiry. Put simply, knowledge of a language entails mastery of an elaborate system of rules that enables a person to encode and decode a limitless number of utterances in that language.

One sub-set of this rule system is the rules of word-formation.

speakers of a language do not just commit to memory all the words they know. Their competence includes the ability to manipulate rules in order to create new words and to unscramble the meanings of novel or unfamiliar words which they encounter.

If knowing a language essentially involves mastering a system of rules, how do humans accomplish this task?

Chomsky contends that the linguistic capacity of humans is innate. The general character of linguistic knowledge is determined by the nature of the mind which is endowed with a specialised language faculty. This faculty is determined in turn by the biology of the brain. The human child is born with a blue-print of language which is called **Universal Grammar**.

According to Chomsky, Universal Grammar is the faculty of the mind which determines the nature of language acquisition in the infant and of linguistic competence. The properties that lie behind the competence of speakers of various languages are governed by restricted and unified elementary principles rooted in Universal Grammar. This explains the striking underlying similarity between languages in their essential structural properties. Admittedly, languages differ from each other, but the structural differences between them occur within the fairly narrow range sanctioned by Universal Grammar.

The language faculty of the mind is essentially the same in all humans. Hence languages can only differ from each other within the limits predetermined by the neurology and physiology of the human brain, which determine the nature of Universal Grammar. And Universal Grammar in turn determines the kinds of grammars of particular languages that can be acquired by infants. The differences between the grammars acquired by individual speakers of, say, English and Arabic can be attributed to experience. An individual's experience serves to specify a particular grammar for the particular language which that individual is exposed to - within the range permitted by Universal Grammar.

At word level, in a compound like *farmhouse*, the head, *house*, is the last element and it is the pivotal element from a semantic point of view. ***(A farmhouse is a kind of house.)*** However, in some languages, such as Japanese, the reverse is the case. The head of a grammatical constituent is normally on the left. Once an infant has worked out the position of the head for one construction this can be generalised with a considerable degree of success to other constructions.

As seen, Universal Grammar includes the lexicon and morphology module. **Knowledge of word-structure is a central aspect of linguistic competence. A case can be made for recognising morphology as a separate module of Universal Grammar.** Yet at the same time, **morphology (and the lexicon) are like a bridge that links the other modules of the grammar.** It is therefore **necessary to examine morphology not in isolation, but in relation to the other modules.** *Morphology interacts with both phonology and syntax as well as semantics.* So, it can only be studied by considering the phonological, syntactic and semantic dimensions of words.

The Place of Morphology in Early Generative Grammar

Today the place of morphology in generative grammar is secure. But this is a recent development. After being in the limelight when structuralism peaked in the 1950s, morphology was at first eclipsed when generative grammar came on the scene.

Generative grammarians initially rejected the validity of a separate morphological module. From the point of view of advancing our understanding of word structure, this stance was unfortunate. Since generative grammar has been the dominant school of linguistics in the second half of this century, it meant that the study of word-structure was in the shadows for more than a decade. Morphology did not re-emerge from oblivion until the mid-1970s. Fortunately, the eclipse was not total. A few isolated (for the most part non-generative) scholars such as Robins (1959) and Matthews (1972, 1974).

important contributions to morphology during this time are made.

Part of the reason for the widespread neglect of morphology during the early years of generative grammar was *the belief that word-formation could be adequately covered if it was partitioned between phonology and syntax.*

It was argued that no separate morphological level or component was needed in the grammar. Ways were found of describing the structure of words in a model of language that had a phonological component, a syntactic component and a semantic component but no morphological component.

Those aspects of word-structure that relate to phonology would be dealt with using devices found in the phonological component. And those aspects of word-structure that are affected by syntax would be dealt with in the syntactic component.

The job of the syntactic component of the grammar was thought of as being to generate (i.e. to specify or enumerate explicitly) all the well-formed sentences of a language, without generating any ill-formed ones. Significantly, generating all the sentences of a language was seen as meaning generating all the permissible sequences of morphemes (not words), and showing which morpheme groupings formed syntactic constituents like noun phrases and verb phrases.

See the examples mentioned in the book p.11

Words are a central dimension of language. They have certain unique properties that they do not share with other elements of linguistic structure like sentences and speech sounds. A theory of language must include a properly developed model of word formation that enables the linguist to describe words on their own terms - without overlooking the ways in which word-formation rules interact with rules in other modules. As time went by, this became clear to generative linguists who, in increasing numbers, began to explore more satisfactory ways of dealing with word-structure.

The Morphology-Phonology Interaction

As regards the interaction with phonology, the selection of the form that manifests a given morpheme may be influenced by the sounds that realise neighbouring morphemes. Take the indefinite article in English. It has two manifestations. It is *a* before a word that begins with a consonant (e.g., *a pear*) and *an* before a word that begins with a vowel (e.g., *an orange*). **We cannot describe the phonological shape of the indefinite article without referring to the sound at the beginning of the word that follows it.**

The Morphology-Syntax Interaction

As regards the interaction with syntax, the form of a word may be affected by the syntactic construction in which the word is used. For instance, the verb *walk* has a number of forms including *walk*, *walks* and *walked*. The selection of a particular form of this verb on a given occasion is dependent on the syntactic construction in which it appears. Thus, in the present tense, the choice between the forms *walks* and *walk* depends on whether the subject of the verb is third person singular (in which case *walks* is selected as in *he/she/it walks*) or not (in which case *walk* is selected as in *I/you/we/they walk*). In the past tense, *walk* is realised as *walked*.

The Morphology- Semantics Interface

Turning to semantics, the connection between morphology and the lexicon on the one hand with meaning on the other is obvious since a major role of the lexicon or dictionary is to list the meanings of words. This is because normally the relationship between a word and its meaning is arbitrary. There is no reason why a word has the particular meaning that it has. For instance, you just have to memorise the fact that the word *faulle* refers to a kind of head-dress worn in the seventeenth century. There is no way that you could discover this fact from the sounds or the structure of the word.

The Lexicon

It is less immediately obvious that, in addition to indicating the meaning of words and morphemes, the lexicon must also store other kinds of information relevant to the application of syntactic and phonological rules. Syntax needs to have access to morphosyntactic properties (i.e. properties that are partly morphological and partly syntactic) such as whether a noun is countable like *spades* or uncountable like *equipment*. This affects its behaviour in phrases and sentences. We may say *this spade* or *these spades* but we can only say *this equipment* (not **these equipments*).

Furthermore, some phonological rules apply to words differently depending on their morphosyntactic properties. For example, some phonological rules are sensitive to the difference between nouns and verbs. Thus, in the word *permit*, the main stress falls on the first syllable if the word functions as a noun. But if it functions as a verb, main stress falls on the second syllable. Obviously, for phonological rules that assign stress to apply correctly, access to such morphosyntactic information is essential. This information must form part of the entry of the word in the lexicon.