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Word Classes and Parts of Speech

There is a long tradition of classifying words, for the purpose of grammatical description, into the ten word classes (or parts of speech) noun, verb, adjective, adverb, pronoun, preposition, conjunction, numeral, article, interjection. While each of these terms is useful, and they are indispensable for practical purposes, their status in a fully explicit description of a language or in general grammatical theory remains disputed. Although most of the traditional word class distinctions can be made in most languages, the cross-linguistic applicability of these notions is often problematic. Here I focus primarily on the major word classes noun, verb, and adjective, and on ways of dealing with the cross-linguistic variability in their patterning.

1. The Classification of Words

Words can be classified by various criteria, such as phonological properties (e.g., monosyllabic vs. polysyllabic words), social factors (e.g., general vs. technical vocabulary), and language history (e.g., loanwords vs. native words). All of these are classes of words, but as a technical term, word class refers to the ten traditional categories below (plus perhaps a few others), most of which go back to the Greek and Roman grammarians. In addition to the terms, a few examples are given of each word class.

| | |
|------------------------|-----------------------------------|
| Noun | <i>book, storm, arrival</i> |
| Verb | <i>push, sit, know</i> |
| Adjective | <i>good, blue, Polish</i> |
| Adverb | <i>quickly, very, fortunately</i> |
| Pronoun | <i>you, this, nobody</i> |
| Preposition/adposition | <i>on, for, because of</i> |
| Conjunction | <i>and, if, while</i> |
| Numeral | <i>one, twice, third</i> |
| Article | <i>the, a</i> |
| Interjection | <i>ouch, tsk</i> |

(In this article, the more general term ‘adposition’ will be used rather than preposition, because many languages have postpositions rather than prepositions, and word order is irrelevant in this context.)

The special status of the classification above derives from the fact that these are the most important classes of words for the purpose of grammatical description, equally relevant for morphology, syntax, and lexical semantics. This makes the classification more interesting, but also more complex and more problematic than other classifications of words. Besides the term word class, the older term part of speech (Latin *pars orationis*) is still often used, although it is now quite opaque (originally it referred to sentence constituents). The term word class was introduced in the first half of the twentieth century by structuralist linguistics. Another roughly equivalent term, common especially in Chomskyan linguistics is ‘syntactic category’ (although technically this refers not only to lexical categories such as nouns and verbs, but also to phrasal categories such as noun phrases and verb phrases).

The main two problems with the maximal word-class above are (a) that some of the classes intersect (e.g., the English word ‘there’ is both a pronoun and an adverb), and (b) that the different classes do not have equal weight; while most languages have hundreds of verbs and thousands of nouns, there are far fewer pronouns and conjunctions, and often only a handful of adpositions and articles. The solution that is often adopted explicitly for the second problem is to make a further subdivision into major word classes (nouns, verbs, adjectives, adverbs) and minor word classes (all others). (Alternative terms for major and minor classes are content words/function words and, especially in Chomskyan linguistics, lexical categories/functional categories.) This distinction is discussed further in Sect. 2. The solution to the first problem that is implicit in much contemporary work is that pronouns and numerals are not regarded as word classes on a par with nouns, verbs, prepositions, and so on. Instead, they are regarded as semantically highly specific subclasses of the other classes. For instance, there are nominal pronouns (e.g., *he, who*), adjectival pronouns (e.g., *this, which, such*) and adverbial pronouns (e.g., *here, thus*). Similarly, there are adjectival numerals (*five, fifth*), adverbial numerals (*twice*), and nominal numerals (*a fifth, a five*). Some languages also have verbal pronouns and verbal numerals. Accordingly, this article will not deal with pronouns (see *Pronouns*) and numerals (see *Numeral Systems*).

2. Content Words and Function Words

In all languages, words (and entire word classes) can be divided into the two broad classes of content words and function words. Nouns, verbs, adjectives, and

adverbs are content words, and adpositions, conjunctions, and articles, as well as auxiliaries and words classified as ‘particles’ are function words. While there is sometimes disagreement over the assignment of words and even entire word classes to these two broad categories, their usefulness and importance is not in doubt. Content word classes are generally open (i.e., they accept new members in principle) and large (comprising hundreds or thousands of words), and content words tend to have a specific, concrete meaning. They tend to be fairly long (often disyllabic or longer), and their text frequency is fairly low. By contrast, function word classes are generally closed and small, and function words tend to have abstract, general meaning (or no meaning at all, but only a grammatical function in specific constructions). They tend to be quite short (rarely longer than a syllable), and their text frequency is high. This is summarized in Table 1.

The reason why auxiliaries are not included in the traditional list of word classes is probably merely that they are not prominent in Greek and Latin grammar, but in many languages these ‘function verbs’ are very important (English examples are *be, have, can, must, will, should*). The class ‘particle’ is really only a waste-basket category: function words that do not fit into any of the other classes are usually called particles (e.g., ‘focus particles,’ such as *only* and *also*, ‘question particles,’ such as Polish *czy* in *Czy mówisz po polsku?* ‘Do you speak Polish?’, or ‘discourse particles’ such as German *ja* in *Das ist ja schön!* ‘That’s nice! (expressing surprise)’).

The precise delimitation of function words and content words is often difficult. For instance, while the conjunctions *if, when, as, and because* are unequivocally function words, this is less clear for words like *suppose, provided that, granted that, assuming that*. And while the adpositions *in, on, of, at* are clearly function words, this is less clear for *concerning, considering, in view of*. In the case of adpositions, linguists sometimes say that there are two subclasses, ‘function adpositions’ and ‘content adpositions,’ analogous to the distinction between content verbs and function verbs (= auxiliaries). Another widespread view is that word-class boundaries are not always sharp, and that there can be intermediate cases between full verbs and auxiliaries, between nouns and adpositions, and between nouns/verbs and conjunctions. Quite generally, function words arise from content words by the diachronic process of grammaticalization (see *Grammaticalization*), and since grammaticalization is generally regarded as a gradual diachronic process, it is expected that the resulting function words form a gradient from full content words to clear function words. When grammaticalization proceeds further, function words may become clitics and finally affixes, and again we often find intermediate cases which cannot easily be classified as words or word-parts.

3. Defining Nouns, Verbs, and Adjectives

In the following, the emphasis will be on the content word classes nouns, verbs, and adjectives (for adverbs, a problematic class, see Section 5.3 below). The properties of the function words are more appropriately discussed in other contexts (e.g., auxiliaries in the context of tense and aspect, conjunctions in the context of subordinate clauses, and so on).

Before asking how nouns, verbs, and adjectives are defined, it must be made clear whether a definition of these word classes in a particular language (e.g., English or Japanese) is intended, or whether we want a definition of these classes for language in general. The widely known and much-maligned definitions of nouns as denoting ‘things, persons, and places,’ of verbs as denoting ‘actions and processes,’ and adjectives as denoting ‘properties’ is, of course, hopelessly simplistic from the point of view of a particular language. In most languages, it is easy to find nouns that do not denote persons, things, or places (e.g., *word*, *power*, *war*), and verbs that do not denote actions or processes (e.g., *know*, *lack*, *exist*), and many languages also have adjectives that do not denote properties (e.g., *urban*, *celestial*, *vehicular*). However, if the goal is to define nouns, verbs, and adjectives in general terms that are not restricted to a particular language, these simplistic notional definitions do not fare so badly.

In the first part of the twentieth century, the structuralist movement emphasized the need for rigorous language-particular definitions of grammatical notions, and notionally based definitions of word classes were rejected because they patently did not work for individual languages or were hard to apply rigorously. Instead, preference was given to morphological and syntactic criteria, e.g., ‘if an English word has a plural in *-s*, it is a noun,’ or ‘if a word occurs in the context *the...book*, it is an adjective.’ But of course this practice was not new, because words like *power* and *war* have always been treated as nouns on morphological and syntactic grounds. Some older grammarians, neglecting syntax, defined nouns, verbs, and adjectives exclusively in morphological terms, and as a result nouns and adjectives were often lumped together in a single class in languages like Latin and Greek, where they do not differ morphologically. But

the predominant practice in Western grammar has been to give priority to the syntactic criterion. For instance, adjectives in German have a characteristic pattern of inflection that makes them quite unlike nouns, and this morphological pattern could be used to define the class (e.g., *roter/rote/rotes* ‘red (masculine/feminine/neuter)’). However, a few property words are indeclinable and are always invariant (e.g., *rosa*, as in *die rosa Tapete* ‘the pink wallpaper’). These words would not be adjectives according to a strictly morphological definition, but in fact everybody regards words like *rosa* as adjectives, because they can occur in the same syntactic environments as other adjectives.

Thus, there is universal agreement among linguists that language-particular word classes need to be defined on morphosyntactic grounds for each individual language. However, two problems remain. (a) The generality problem: how should word classes be defined for language in general? Morphological patterns and syntactic constructions vary widely across languages, so they cannot be used for cross-linguistically applicable definitions. (b) The subclass problem: which of the classes identified by language-particular criteria count as word classes, and which only count as subclasses? For instance, English has some property words that can occur in the context *is more ... than*, e.g., *beautiful*, *difficult*, *interesting*. Another group of semantically similar words (e.g., *pretty*, *tough*, *nice*) does not occur in this context. Nobody takes this as evidence that English has two different word classes where other languages have just a single class (adjectives), but it is not clear why it does not count as sufficient evidence.

The solution to the generality problem that is usually adopted (often implicitly, but cf. Schachter 1985 and Wierzbicka 2000) is that one defines word classes on a language-particular basis, and then the word class that includes most words for things and persons is called ‘noun,’ the word class that includes most words for actions and processes is called ‘verb,’ and the word class that includes most words for properties is called ‘adjective.’ However, the subclass problem has not been solved or even addressed satisfactorily, and the use of word-class notions in a general or cross-linguistic sense remains problematic.

Table 1
Content words and function words

| | Content words | Function words |
|------------------|--------------------------------------|--|
| word classes | nouns, verbs, adjectives, adverbs | adpositions, conjunctions, articles, auxiliaries, particles |
| class membership | open | closed |
| class size | large | small |
| meaning | concrete, specific | abstract, general (or none) |
| text frequency | low | high |

4. Characterizing Nouns, Verbs, and Adjectives

Despite the theoretical problems in defining word classes in general, in practice it is often not difficult to agree on the use of these terms in a particular language. This is because nouns, verbs, and adjectives show great similarities in their behavior across languages. Their most common characteristics are briefly summarized in this section.

4.1 Nouns

In many languages, nouns have affixes indicating number (singular, plural, dual, see *Grammatical Number*), case (e.g., nominative, accusative, ergative, dative), possessor person/number ('my,' 'your,' 'his,' etc.), and definiteness. Some examples follow.

- (a) Number. Khanty (Western Siberia) *xot* 'house,' *xot-yyn* 'two houses' (dual), *xot-yt* 'houses' (plural).
- (b) Case. Classical Arabic *al-kitaab-u* 'the book' (nominative), *al-kitaab-i* 'the book's' (genitive), *al-kitaab-a* 'the book (accusative).'
- (c) Possessor person/number. Somali *xoolah-ayga* 'my herd,' *xoolah-aaga* 'your herd,' *xoleh-eeda* 'her herd,' *xooli-hiisa* 'his herd,' etc.

Syntactically, nouns can always be combined with demonstratives (e.g., *that house*) and often with definiteness markers (*the house*), and they can occur in the syntactic function of argument (subject, object, etc.) without additional coding. Thus, in a simple two-argument clause we can have the *child_N caused the accident_N*, but not **smoke_V causes ill_A*. (Here and in the following, the subscripts *N*, *V* and *A* indicate nouns, verbs and adjectives.) Verbs like *smoke* and adjectives like *ill* need additional function-indicating coding to occur in argument function (*smok-ing causes ill-ness*). Because reference is primarily achieved with nouns, it is nouns that can serve as antecedents for pronouns (compare *Albania's destruction of itself* vs. **the Albanian destruction of itself* (impossible)). Finally, nouns are often divided into a number of gender classes which are manifested in grammatical agreement (see *Grammatical Gender*).

4.2 Verbs

In many languages, verbs have affixes indicating tense (present, past, future), aspect (imperfective, perfective,

progressive), mood (indicative, imperative, optative, subjunctive, etc.), polarity (affirmative, negative), valence-changing operations (passive causative, see *Valency and Argument Structure in Syntax*), and the person/number of subject and object(s) (see *Grammatical Agreement*). Semantic notions that are more rarely expressed morphologically are spatial orientation and instrument. Some examples follow.

- (a) Tense. Panyjima (Australia) *wiya-lku* 'sees,' *wiya-larta* 'will see,' *wiya-rna* 'saw.'
- (b) Subject person/number. Hungarian *lát-ok* 'I see,' *lát-sz* 'you see,' *lát* 's/he sees.'
- (c) Valence-changing. Turkish *unut-* 'forget,' *unut-ul-* 'be forgotten' (passive), *unut-tur-* 'make forget' (causative).
- (d) Spatial orientation. Russian *vy-letat* 'fly out,' *v- letat* 'fly in,' *pere-letat* 'fly over ,' *vz-letat* 'fly up.'

Syntactically, verbs generally take between one and three nominal arguments, e.g., *fall* (1: patient), *dance* (1: agent), *kill* (2: agent, patient), *see* (2: experiencer, stimulus), *give* (3: agent, patient, recipient). Nouns and adjectives may also take arguments, but they are not nearly as rich as verbs, and nouns that correspond to verbs often cannot take arguments in the most direct way (compare *Plato defined beauty* vs. **Plato definition beauty* (impossible); additional coding is required: *Plato's definition of beauty*). Verbs always occur as predicates without additional coding, whereas nouns and adjectives often need additional function-indicating coding when they occur as predicates, namely a copular verb (cf. *Halim works_V* vs. **Halim a worker_N* (impossible), **Halim hard-working_A* (impossible); here the copula *is* is required).

4.3 Adjectives

In a fair number of languages, adjectives have affixes indicating comparison (comparative degree, superlative degree, equative degree), and in a few languages, adjectives are inflected for agreement with the noun they modify. Some examples follow.

- (a) Comparison. Latin *audax* 'brave,' *audac-ior* 'braver' (comparative), *audac-issimus* 'bravest' (superlative).

- (b) Comparison. Tagalog (Philippines) *mahal* 'expensive;' *sing-mahal* 'as expensive as.'
- (c) Agreement. Hindi *acchaa* 'good' (masculine singular), *acchee* (masculine plural), *acchii* (feminine singular/plural).

In many languages, adjectives show no inflectional properties of their own. Syntactically, a peculiarity of adjectives is that they can typically occur in comparative constructions (whether they show affixes marking comparison or not), and they can be combined with degree modifiers of various kinds that do not co-occur with verbs and nouns (e.g., *very hot_A*, *too difficult_A*, cf. **work_V very*, **too mistake_N* (impossible)). Adjectives generally occur as nominal modifiers without additional coding (cf. *a bald_A man*), whereas nouns and verbs mostly need additional function-indicating coding when they occur as modifiers (**a beard_N man/a man with a beard*, **a shave_N man/a man who shaves*).

5. Difficulties of Classification

The general properties of nouns, verbs, and adjectives that were sketched in Sect. 5 are sufficient to establish these classes without much doubt in a great many languages. However, again and again linguists report on languages where such a threefold subdivision does not seem appropriate. Particularly problematic are adjectives (Sect. 5.1) but languages lacking a noun-verb distinction are also claimed to exist (Sect. 5.2), and Sect. 5.3 discusses adverbs, which present difficulties in all languages.

5.1 The Universality of Adjectives

In contrast to nouns and verbs, adjectives are sometimes like function words in that they form a rather small, closed class. For instance, Tamil (southern India) and Hausa (northern Nigeria) have only about a dozen adjectives. Interestingly, in such languages the concepts that are denoted by adjectives in the small class coincide to a large extent (Dixon 1977): dimension ('large,' 'small,' 'long,' 'short,' etc.), age ('new,' 'young,' 'old,' etc.), value ('good,' 'bad'), color ('black,' 'white,' 'red,' etc.). Other concepts for which English has adjectives (e.g., human propensity concepts such as 'happy,' 'clever,' 'proud,' 'jealous,' and physical property concepts such as 'soft,' 'heavy,' 'hot') are then expressed by verbs or by nouns. For instance, in Tamil, 'heavy man' is *ganam-uḷḷa manuṣan*, literally 'weight-having man,' and in Hausa, 'intelligent person' is *mutum mai hankali*, literally 'person having intelligence.'

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But even more strikingly, many languages appear to lack adjectives entirely, expressing all property concepts by words that look like verbs or like nouns. For instance, in Korean, property concepts inflect for tense and mood like verbs in predication structures, and they require a relative suffix (see *Relative Clauses*) when they modify a noun, again like verbs (cf. (b) (i), (ii)) below.

(a) Predication

(i) Event

salam-i *mek-ess-ta*
 person-NOMINATIVE eat-PAST-DECLARATIVE
 'the person ate'

(ii) Property

san-i *noph-ess-ta*
 hill-NOMINATIVE high-PAST-DECLARATIVE
 'the hill was high'

(b) Modification

(i) Event

mek-un *salam*
 eat-RELATIVE person
 'a person who ate'

(ii) Property

noph-un *san*
 high-RELATIVE hill
 'a high hill'

While languages where all property words can be classified as verbs are very common, languages where all property concepts are nouns are less widely attested. A language for which such a claim has been made is Ecuadorian Quechua: in this language, property concept words can occur in argument position and take the same inflection as nouns (cf. (a)(i), (ii) below), and nouns can occur as modifiers without additional coding, like property words (cf. (b) (i), (ii) below).

(a) argument position

(i) Thing

wambra-ta-mi
 child-ACCUSATIVE-FOCUS
wajta-rka
 hit-PAST.3RD.SINGULAR
 'he hit the child'

(ii) Property

jatun-ta-mi

big-ACCUSATIVE-FOCUS

wajta-rka

hit-PAST.3RD.SINGULAR

'he hit the big one'

(b) modification

(i) Thing

rumi wasi

stonehouse

'stone house'

(ii) Property

jatun wambra

big child

'big child'

Thus, it is often said that while nouns and verbs are virtually universal, adjectives are often lacking in languages. However, it is generally possible to find features that differentiate a property subclass within the larger class to which property words are assigned. For instance, Korean property verbs do not take the present-tense suffix *-nun*, and Ecuadorian Quechua thing words do not combine with the manner adverb suffix *-ta* (e.g., *sumaj-ta* 'beautifully,' but not **duktur-ta* 'in a doctor's manner'). Here the subclass problem arises: on what grounds do we say that Korean has two classes of verbs (non-property verbs vs. property verbs), rather than two word classes (verbs and adjectives)? Since this question is difficult to answer, some linguists have claimed that most languages have adjectives after all, but that adjectives have a strong tendency to be either verb-like or noun-like (e.g., Wetzler 1996).

5.2 *The Universality of the Noun-Verb Distinction*

For a few languages, it has been claimed that there is no (or only a very slight) distinction between nouns and verbs, for instance for several North American languages of the Wakashan, Salishan, and Iroquoian families, as well as for a number of Polynesian languages. For instance, in Samoan (a Polynesian language), full words referring to events and things show intriguingly similar behavior. Both thing (or person) words and event words seem to occur in the same predication structures (a) and in argument positions (b) below.

(a) Predication

(i) Thing

sa fōma'i le fafine

PAST doctor the woman

'the woman was a doctor'

(ii) Event

sa alu le fafine

PAST go the woman

'the woman went'

(a) Argument

(i) Thing

e lelei le fōma'i

GENERIC good the doctor

'the doctor is good'

(ii) Event

e lelei le alu o le vasi

GENERIC good the go of the bus

i Apia

to Apia

'it's good that the bus goes to Apia'

Clearly, the similarity of thing-words and event-words in such languages is quite striking and differs dramatically from what is found in the better-known European languages. But thing-words and event-words do not behave exactly alike in Samoan; the pattern above is asymmetrical in that *fōma'i* means 'be a doctor' and 'person who is a doctor,' but *alu* does not mean both 'go' and 'person who goes,' but rather 'the fact of going.' Upon closer examination, it has usually turned out that major word classes which can be called nouns and verbs can be distinguished even in the problematic languages.

5.3 *The Problem of Adverbs*

Adverbs are the most problematic major word class because they are extremely heterogeneous in all languages, and unlike for nouns, verbs, and adjectives, no semantic prototype can be identified easily for them (cf. Ramat and Ricca 1994). The most that can be said in general about adverbs is that they serve to modify non-nominal constituents (verbs or verb phrases, adjectives, other adverbs, sentences). Perhaps the

concept of adverb should not be taken too seriously, because there are very few properties that adverbs of different kinds share. Five broad subclasses of adverbs are often distinguished: setting adverbs (locative: *here, there, below, abroad*; temporal: *now, then, yesterday, always*), manner adverbs (*quickly, carefully, beautifully*), degree adverbs (*very, too, extremely*), linking adverbs (*therefore, however, consequently*), and sentence adverbs (*perhaps, fortunately, frankly*) (see Quirk et al. 1985 for the most comprehensive semantic classification of adverbs).

Setting adverbs, degree adverbs, and linking adverbs are relatively small, closed classes, and they often share properties with function words. Sentence adverbs are rare in most languages, and their great elaboration is probably a peculiarity of the written languages of Europe (Ramat and Ricca 1998). The only sizable subclass of adverbs that has equivalents in many languages is the class of manner adverbs. Many languages have a productive way of forming manner adverbs from adjectives (e.g., English *warm/warmly*, French *lent* 'slow,' *lentement* 'slowly'). But this also makes manner adverbs problematic as a major word class, because one could argue that adjective-derived manner adverbs are just adjectives which occur with a special inflectional marker to indicate that they are not used in their canonical noun-modifying function. This point of view is non-traditional, but it seems quite reasonable, and it is strengthened by the fact that in quite a few languages, adjectives can be used as manner adverbs without any special marking.

One of the main features that unifies the various subclasses of adverbs in languages like English and French is that four of the five classes contain adjective-derived words ending in *-ly/-ment* (only setting adverbs are almost never of this type). This is certainly no accident, but it should also be noted that this is probably a feature typical of European languages that is hardly found elsewhere.

6. Theoretical Approaches

While the identification and definition of word classes was regarded as an important task of descriptive and theoretical linguistics by classical structuralists (e.g., Bloomfield 1933), Chomskyan generative grammar simply assumed (contrary to fact) that the word classes of English (in particular the major or 'lexical' categories noun, verb, adjective, and adposition) can be carried over to other languages. Without much argument, it has generally been held that they belong to the presumably innate substantive universals of language, and not much was said about them (other than that they can be decomposed into the two binary features $[\pm N]$ and $[\pm V]$: $[+N, -V] = \text{noun}$, $[-N, +V] = \text{verb}$, $[+N, +V] = \text{adjective}$, $[-N, -N] = \text{adposition}$) (see *Linguistics: Theory of Principles and Parameters*).

Toward the end of the twentieth century, linguists (especially functionalists) became interested in word classes again. Wierzbicka (1986) proposed a more sophisticated semantic characterization of the difference between nouns and adjectives (nouns categorize referents as belonging to a kind, adjectives describe them by naming a property), and Langacker (1987) proposed semantic definitions of noun ('a region in some domain') and verb ('a sequentially scanned process') in his framework of Cognitive Grammar. Hopper and Thompson (1984) proposed that the grammatical properties of word classes emerge from their discourse functions: 'discourse-manipulable participants' are coded as nouns, and 'reported events' are coded as verbs.

There is also a lot of interest in the cross-linguistic regularities of word classes, cf. Dixon (1977), Bhat (1994) and Wetzer (1996) for adjectives, Walter (1981) and Sasse (1993a) for the noun-verb distinction, Hengeveld (1992b) and Stassen (1997) for non-verbal predication. Hengeveld (1992a) proposed that major word classes can either be lacking in a language (then it is called rigid) or a language may not differentiate between two word classes (then it is called flexible). Thus, 'languages without adjectives' (cf. Sect. 6) are either flexible in that they combine nouns and adjectives in one class (N/Adj), or rigid in that they lack adjectives completely. Hengeveld claims that besides the English type, where all four classes (V-N-Adj-Adv) are differentiated and exist, there are only three types of rigid languages (V-N-Adj, e.g., Wambon; V-N, e.g., Hausa; and V, e.g., Tuscara), and three types of flexible languages (V-N-Adj/Adv, e.g., German; V-N/Adj/Adv, e.g., Quechua; V/N/Adj/Adv, e.g., Samoan).

The most comprehensive theory of word classes and their properties is presented in Croft (1991). Croft notes that in all the cross-linguistic diversity, one can find universals in the form of markedness patterns; universally, object words are unmarked when functioning as referring arguments, property words are unmarked when functioning as nominal modifiers, and action words are unmarked when functioning as predicates. While it is not possible to define cross-linguistically applicable notions of noun, adjective, and verb on the basis of semantic and/or formal criteria alone, it is possible, according to Croft, to define nouns, adjectives, and verbs as cross-linguistic prototypes on the basis of the universal markedness patterns.

For a sample of recent work on word classes in a cross-linguistic perspective, see Vogel and Comrie (2000), and the bibliography in Plank (1997). Other overviews are Sasse (1993b), Schachter (1985), and further collections of articles are Tersis-Surugue (1984) and Alpatov (1990).

See also: Lexical Processes (Word Knowledge): Psychological and Neural Aspects; Speech Production,

Neural Basis of; Speech Production, Psychology of; Word, Linguistics of; Word Meaning: Psychological Aspects; Word Recognition, Cognitive Psychology of

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Word, Linguistics of

In thinking about words, the first question is how to divide an utterance up into them. The simple answer is that words are demarcated by spaces, just as they are on this page. But this simple answer depends on the existence of writing. In speech, we do not normally leave a space or pause between words. Most languages throughout history have not been written down. Surely we do not want to say that only written languages have words, and, even with written languages, spacing does not provide an entirely satisfying answer. For example, English compounds can be spelled in three ways: open, closed, or hyphenated, and some items can be spelled in any of these three ways without being affected in any detectable way: *birdhouse*, *bird-house*, *bird house*. We do not want to say that the first spelling is one word, the last spelling two words, and the middle one neither one word nor two, which we would have to do if we accepted spaces as criterial. The better conclusion is that spelling conventions are not a completely reliable clue to whether something is a word or not.

Some linguists avoid the problem by claiming that the whole notion 'word' is theoretically invalid, just an artifact of spelling. In their favor is the fact, which people are always surprised to learn, that not all languages have a word for 'word.' The classical languages, biblical Hebrew, classical Greek, and classical Latin, for example, all have terms that are systematically ambiguous among 'speech,' 'word,' and 'utterance' but none has terms that distinguish clearly among these notions and certainly none has a special term that means just 'word.' Even in the opening verse of the Gospel of John, 'In the beginning was the Word,' it is still not clear just what is the meaning of the Greek word *λόγος* [*logos*] that we conventionally translate as 'word.' Many scholars believe that the best translation is 'thought' or 'reason.'

The classical languages are not alone. The anthropologist Bronislaw Malinowski declared that the distinction between word and utterance was not an obvious one to most peoples, that 'isolated words are in fact only linguistic figments, the products of an advanced linguistic analysis' (Malinowski 1935, p. 11), suggesting that there was no reason for most languages to distinguish between words and utterances. Nonetheless, most modern linguists believe that all languages do have words, whether their speakers are aware of the units or not. The question then becomes how to figure out what a word is and how to identify words in a way that is valid for all languages, written or spoken, and, since language is first and foremost spoken, our answer must not depend on writing.

The earliest explicit discussion that we have of the notion 'word' and of words in the speech stream is in the work of Aristotle. Aristotle made a distinction between an utterance or sentence, for which he used the term *λόγος* [*logos*] (confusingly, the term that we

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