

Word classes: Semantics, morphosyntax and pragmatics

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Abstract

Most contemporary linguists treat word classes as distributional phenomena, formally defined by morphosyntactic contexts in which sets of words or lexemes occur. But even the originators of this distributional method were aware that it is much more complicated than it sounds, and if applied rigorously does not seem to result in neat word classes of the type normally assumed. In this chapter I will summarise some of the limitations of the morphosyntactic approach to word classes, and argue that the solutions lie in semantics and pragmatics. On the one hand, many word classes do in fact have a consistent semantic character, even if this is not true of all word classes in all languages. On the other hand, pragmatic function provides a valuable, and under-appreciated, lens for understanding why some word classes are so semantically inconsistent.

Keywords

Word class, syntactic typology, lexical semantics, pragmatics

1. Introduction

Most grammatical analyses assumes that language is made up distinct word classes, such as nouns, verbs and adjectives. Grammatical patterns are expected to apply to classes of words, rather than to individual lexemes – though it is also sometimes observed that specific words have their own patterns. Although word classes are widely relied upon, attempts to establish a theoretically rigorous approach have proved complicated. Indeed, several linguists who have attempted rigorous analysis have found that word classes may not provide such a solid theoretical foundation:

‘[T]o say that a word is an adverb, for example, explains little and confuses much ... The near-universal use of a very small number of labels has obscured the existence of deeper problems.’ (Crystal 1967: 24)

‘[W]ord class is an epiphenomenon, it is not a basic concept but a derivative notion in linguistics.’ (Kenesei 2020: 76);

‘[A] word class is not an essentialist category. A word class is a population: a spatiotemporally bounded set of historical entities.’ (Croft 2023).

In this chapter I provide an overview of word class analysis. Following the authors quoted above, I do not assume that language is made up of discrete categorical word classes, but instead allow that word classes may be either fuzzy categories, or descriptive approximations of a more complex reality. This is perhaps inevitable, since grammatical

analyses are merely synchronic snapshots of complex adaptive systems. Taking a snapshot of such a system at any given point of time, certain word classes may be more or less clearly distinct (Anward 2000; Heine & Kuteva 2007; Hieber 2018; Bisang 2023).

The literature on word classes is truly vast, and one chapter is insufficient to review all of the approaches that have been taken. Instead, this chapter aims to provide a compact account of some key insights. Some of these have been widely discussed, and some are not so well known. I structure my account around three dimensions: semantics, morphosyntax and pragmatics. Beginning with the semantics of word classes (§2), the current mainstream view is that word classes are not semantic phenomena, but I will argue that this rejection has been too hasty. On the one hand, there are some word classes such as number words that do have a consistent semantic character; on the other hand, even the classes that are apparently most semantically heterogeneous, such as nouns, may be more semantically consistent in some languages than others.

I then discuss the mainstream approach to word classes, as distributional phenomena based on morphosyntactic contexts (section §3). I will highlight challenges for this approach, which are well established in the literature. Although morphosyntactic contexts provide a practical approach to word classification, if applied rigorously the resulting classes may be messy, gradient, or splinter into an unwieldy array of micro-classes. Comparative morphosyntax also highlights the language-specificity of word classes, and the flexibility of classes in some languages, for example where the same lexemes can be systematically used in both noun-like and verb-like morphosyntactic contexts. Word-class flexibility is particularly relevant to this volume, since it provides an alternative way of understanding lexical ‘conversion’.

In the final section (§4), I will focus on the pragmatic character of word classes. This has been discussed in some previous theories of word class, but in my view it still remains under-appreciated, and deserves further research. The core insight of the pragmatic approach is that morphosyntactic word classes are not merely formal structures, but instead play distinctive roles in the pragmatic packaging of information. Thus a morphosyntactic class like the English noun does not have a consistent semantic character, but it does have a particular array of pragmatic functions, which are distinct from the pragmatic functions of the verb class. If the pragmatic approach is on the right track, then we do not need to treat word classes as purely formal facts of morphosyntactic distribution. Rather, we can view them as symptoms of a finely tuned communicative system, which does not just encode truth-conditional propositions, but also packages information according to discourse context.

A quick note on terminology: ‘word class’, ‘parts of speech’, ‘syntactic category’ and ‘lexical category’ are all near-synonyms in the literature, with slightly different connotations or theoretical affiliations. There is also a broader term, ‘morpheme class’ (Harris 1946; Wells 1947), which also includes classes of affixes or clitics. In this chapter I will focus on major classes of noun, verb and adjective, and for consistency I will use the term ‘word class’ throughout.

2. Semantics

The popular understanding of word classes, among non-linguists and in school-level grammar, is that noun, verb and adjective correspond to semantic classes, namely objects, events and properties. Adverbs usually also get a mention as a fourth major word class (Rauh 2015), though I will set these aside for want of space.

However the ‘objects, events and properties’ perspective is sharply at odds with modern linguistics, where the standard view is that word classes are *not* semantically defined. For example, Gleason’s introductory text calls semantics the ‘least promising’ approach to word classes (1965: 116), and recommends that linguists should instead focus on morphosyntactic structure. The next section will explore the morphosyntactic approach, while in this section, despite Gleason’s warning, I will consider the semantic character of word classes.

The idea that nouns denote concrete objects is quickly undermined when we consider nouns in English. Perhaps the first that come to mind are objects such as *cat* or *spoon*, but there are clearly many nouns that are not objects, such as *time*, *arrival*, *forgiveness* or *friendship*. Even some nouns that at first appear to be objects, such as *friend*, *team* and *father* (apparently physical people), on further consideration can be seen as relationships between objects, rather than objects as such. Thus we must conclude that English nouns are at best prototypically objects, but this is certainly not a sufficient or necessary definitional criteria for the class (Auwera & Gast 2010). Furthermore, we should not assume that ‘object’ is a clearly defined semantic category. On the contrary, object-hood is a complex, even elusive, category, linked to spatio-temporal persistence (Scholl 2007), concreteness, and imageability (Richardson 1975; Ljubešić et al. 2018; Löhr 2022). This suggests that nouns are not a discrete semantic class, but instead a word class with an overall tendency to more spatio-temporal persistence, concreteness and imageability.

While semantic properties do not seem viable for establishing discrete word classes, the dismissal of semantics as a basis for word classes may be unduly influenced by English nouns, or European major word classes more generally. There are other word classes that appear to be much more semantically coherent. For example, in most languages there is a class of number words that has a clear and invariant semantic character (Crystal 1967; Lehmann 2013: 161). Personal pronouns are another distinctive word class that is semantically coherent. Some languages have other semantically coherent word classes, such as kin terms (Dahl & Koptjevskaja-Tamm 2001), or body parts (Walsh 1996). Thus some word classes clearly do have a semantic character.

Adjectives are another interesting case. Again, in English this class is semantically heterogeneous. While its prototypical core may be properties of objects, such as *large* or *red*, it also includes epistemological words like *false*, quantifiers like *entire*, and modal words such as *likely* (Eckhardt 2006: 80). But we should not let English (or other European languages) set the terms of theoretical debate. A study comparing adjective classes in diverse languages finds that many have quite a small set of around

10–20 adjectives, involving fairly consistent property concepts such as age, dimension, value and colour (Dixon 1977).

Returning to nouns, it is unclear to what extent their semantic heterogeneity is a general property, or is particular to certain languages such as English. Although there does not appear to be systematic research on this topic, it has been claimed, for instance, that some Australian Aboriginal languages have ‘scarcely any abstract nouns’ (Dixon 1980: 272). An informal inspection of narrative samples from English and the Australian language Murrinhpatha suggests that they may indeed be quite different in the degree to which nouns are used to denote concrete objects. Using the same sample texts as Rumsey and colleagues (2023), the English sample has mostly nouns with low concreteness, such as *vote*, *opponent*, (political) *party*, *month*, *chance* and *scene*. By contrast, the Murrinhpatha sample has mostly highly concrete nouns such as *ku* ‘animal’, *thay* ‘tree’ and *kardu* ‘person’. These may of course not be representative samples, but the Murrinhpatha dictionary (Street 2012) also appears to contain very few non-concrete nouns. This suggests that nouns may be used more consistently for concrete objects in some languages than in others.

The extent to which nouns are used for concrete objects may also have a developmental dimension. An early study of child speech production in English suggests that children use many more concrete nouns than their adult counterparts (Brown 1958: 247–250), while later research on word learning in English and French infants suggests that their acquisition of nouns depends heavily on concrete objects (Waxman & Booth 2001; Brusini et al. 2021). This is not to say that children do not use also use distributional cues to acquire word classes (Stoll 2023), but it suggests that compared to adult speech in languages like English and French, which makes rich use of abstract nouns, the developmental origins may have a semantic basis in concrete objects.

In summary, semantics is an important dimension of word classes, much more so than is usually reflected in contemporary linguistic theory. While it is true that some word classes in some (adult) languages are semantically heterogeneous, there are also word classes that are mostly quite semantically coherent. This is true cross-linguistically for classes like numbers and personal pronouns, and may also be true in specific languages for major classes such as adjectives and nouns. Nonetheless, the case of English nouns shows that semantics cannot be relied upon as a consistent method for identifying word classes. This has motivated a very different approach, relying on morphosyntactic contexts.

3. Morphosyntax

Most modern linguistic texts treat word classes as distributional phenomena: words form a class to the extent that they occur in the same syntactic position, or are subject to the same morphological alternations. For example nouns are defined based on contexts such as a preceding article (*the cat*); while verbs are defined based on contexts such as TAM affixation (*walk-ed*). The promise of this approach is to achieve a rigorous classification (Harris 1946; Wells 1947), independent of semantic criteria that may be considered

unreliable or inconsistent. However the morphosyntactic approach brings challenges of its own.

The morphosyntactic approach is based on identifying specific contexts, but typical analyses do not simply equate a word class with one particular context. Rather, a word class is a set of words (or lexemes) that collectively appear in *one or more* morphosyntactic contexts (François 2017). Adjectives in English provide a well-known example of multiple contexts. There are two main syntactic contexts involved, one being the adnominal position in a noun phrase, e.g. *black cat*, the other being the clausal predicate position, e.g. *the cat is black*. Another defining context is comparative suffixation, e.g. *black-er*, *black-est*. Theoretically, at least, the English adjective class is the set of words that can be used in all these contexts.

To better understand the distributional approach, it is worth considering how it might be formalised. We can define a morphosyntactic context as a sequence $c_1 X c_2$, where both c_1 and c_2 are variables over morphemes, words, phrases or constituent edges, and these contextual variables may be highly specific (e.g. Indonesian nouns can be defined specifically by the context of the nominal negator *bukan* $__N$), or highly generic (e.g. English adjectives defined by the context of any noun). Now a contextual class is defined as the set of words or lexemes in the support of the variable X . As observed above, a word class is defined not just by one such contextual class, but by multiple such contexts $C_1 \dots C_n$. A canonical word class might be defined as a set of contexts $C_1 \dots C_n$ for which the same words occur in each, i.e. $X_1 = X_2 = \dots X_n$. In addition, a word class so defined would be maximally distinct from other word classes if there was no intersection between the words in X_1 , and the words found in all morphosyntactic contexts other than $C_1 \dots C_n$. But such a rigorous approach is rarely used in practice, and it is unclear to what extent the actual distribution of words in morphosyntactic contexts ever approximates a canonical word class system.

So far we have considered *syntagmatic* contexts, whereby a word class can be defined by what occurs before or after it. Up to this point we can consider syntactic or morphological material in much the same way, for example whether we are dealing with contextual words such as *the* $__N$, or contextual affixes such as $__V-ed$, both involve sequences of morphemes. This also avoids committing to a distinction between function words, clitics and affixes (Haspelmath 2011). But *paradigmatic* contexts also contribute to the identification of word-classes. For example verbs like *buy* and *win* are still universally accepted as members of the verb class, even though they do not appear in the $__V-ed$ context. They are still considered to be verbs because they also have past forms, though these are the non-concatenative forms *bought* and *won*. Therefore morphosyntactic contexts are not just syntagmatic phenomena, defined by the co-occurrence of morphemes within a single utterance. There is also a paradigmatic dimension, involving matrices of morpho-semantic categories (Stump 2001), whereby a word class can be defined as the set of lexemes that are inflected for the same set of morpho-semantic categories. This paradigmatic approach played a major role in classical word class

traditions (Seuren 1998: 22), and must be considered alongside the syntagmatic methods favoured by twentieth century structuralists (e.g. Harris 1946; Wells 1947).

To summarise, the morphosyntactic approach to word classes combines two types of criteria: the set of words that appear in the same syntagmatic contexts are of the same class; and the set of lexemes that appear in the same morpho-semantic paradigm are of the same class.

The promise of the morphosyntactic approach is that it can avoid the inconsistency and vagueness of semantics. But morphosyntactic word classes have their own limitations, which were recognised even in the foundational texts (e.g. Bloomfield 1933: 269). One problem is that morphosyntactic contexts, if rigorously applied, do not reliably yield a small number of well-defined classes like noun, verb, adjective, etc. As outlined above, canonical word classes would be achieved if each had a set of morphosyntactic contexts that perfectly intersected in their lexical occupants, while also being perfectly disjoint from all other morphosyntactic contexts. But the canonical case does not occur in practice, and neither is it clear to what degree natural languages even approximate such a design.

The case of that adnominal and predicative adjective contexts mentioned above presents a well-known example of misaligning contexts. In fact English adjectives have lexically specific distributions, such as *awake* being predicative only, and *entire* being adnominal only (Bolinger 1967). We might then split adjectives into subclasses according to these contexts. But further, cross-cutting splits will be required. For example, the comparative context mentioned above (e.g. *black-er*), does not apply to all adjectives, as some instead appear in a comparative phrase (e.g. *more beautiful*). Studies of this phenomena have found that as the morphosyntactic contexts multiply, we may end up with so many micro-classes that we are arguably no longer dealing with conventional word classes at all, but instead characterising more specific syntactico-semantic features (Croft 2001: 36). English nouns also splinter into subclasses, based on their heterogeneous compatibility with various types of determiners, affixes, and clausal positions (Crystal 1967). Some studies have tackled these phenomena directly by developing hierarchies of lexical subclasses (e.g. Sag et al. 2003: 52; Enfield 2004), while others conclude that word classes should be replaced by arrays of morphosyntactic features (Zeijlstra 2023).

The issue of non-alignment between contexts is perhaps even more serious for minor word classes. For example, a study of the purported ‘auxiliary’ class in Hungarian finds that no two members share the same set of contextual restrictions (Kenesei 2020). English auxiliaries are also characterised by idiosyncratic morphosyntax (Sag et al. 2020). In practice, linguists usually do not apply distributional tests in a principled and reproducible way, but rather pick out whichever examples seem most useful. It is doubtful whether any two linguists working independently on the same set of data would arrive at the same analysis.

Paradigmatic contexts may fare somewhat better in determining discrete and reproducible word classes (see Thornton, this volume). For example Latin, with its rich

inflectional system, appears to have relatively distinct noun, verb and adjective classes. Strongly distinguished word classes may also be particularly associated irregular or unpredictable inflectional paradigms (Ackerman & Malouf 2013), which are also a feature of Latin. For example, in north-western Australian there are some finite verb classes (or stem classes) that have especially unpredictable inflectional paradigms, and these are strongly bounded, closed classes (McGregor 2002; Mansfield 2016).

If irregular inflection is associated with strongly bounded word classes, then conversely, contexts defined by syntax or regular affixation may be more lexically flexible (see §3.2 below). Indeed, when we do find inflectional paradigms with flexible lexical membership, these seem to generally involve more regular morphology. For example, the most regular and productive Spanish verb conjugation class *-ar* provides a paradigmatic context with lexical overlaps, so that stems such as *trabaj-* ‘work’ and *viaj-* ‘travel’ appear in both this paradigm (e.g. *viaj-ar*), and in the nominal paradigm (*viaj-es* ‘PL’) (Herce 2019: 57) (see also Bauer and Valer, this volume; Thornton, this volume). Similarly, in Icelandic the most regular and segmentable *-a* class is also the most flexible in accommodating novel lexemes (Herce 2019: 63). Although more dedicated research is required on this question, it may be that inflectional morphology is associated with more discrete word classes than syntactic contexts, and in addition, irregular inflection may produce the most discrete word classes of all.

Although this section has highlighted the limitations of the morphosyntactic approach, this does not imply that it is not a useful tool for studying word classes. The more sober conclusions are firstly, that morphosyntactic classes are gradient categories (Aarts 2007; Keizer 2023), and secondly, that morphosyntactically defined classes involve complex lexical overlaps. While the original aim of the morphosyntactic approach was to provide more rigour than the semantic approach, in practice it is not usually applied rigorously. In the end it is not so different from the semantic approach it aimed to supersede: approximate, informal and intuitive.

3.1. Language specificity

A important implication of the morphosyntactic approach is that it identifies word classes in language-specific manner (DeLancey 2005; Haspelmath 2023). Morphosyntactic contexts often involve grammatical material such as articles, affixes and clitics, for which each language has its own particular inventory. Thus the classes defined by these markers are language-specific. This raises the question of how we can even say that ‘nouns’ in two different languages are of the same category. On the one hand this takes us back to semantics again as the common ground (Haspelmath 2023), though pragmatic functions may also provide cross-linguistic connections (see below).

Languages also differ in the degree to which they morphosyntactically differentiate major word classes. Adjectives are difficult to distinguish from nouns in some languages (e.g. Martuthunira: Dench 1995), or from verbs in other languages (e.g. Lao: Enfield 2004). There has been extensive debate on whether some languages lack a

noun/verb distinction (for an overview see Dixon 2009: Ch.11), because some languages have relatively systematic overlap between the lexemes that occur in noun-like and verb-like morphosyntactic contexts. These are known as ‘flexible word class’ languages (Rijkhoff 2007; Hengeveld 2013; Peterson 2013). For example in Samoan, the same lexemes can typically occur in both noun-like contexts, as in 1a where *lā* ‘sun’ occurs with an article, and verb-like contexts, as in 1b where it occurs with a TAM particle (Rijkhoff 2007: 716).

- (1) a. *‘Ua maʻosi le la.*
 PERF strong ART sun
 ‘The sun is strong.’ (lit. ‘The sun strongs’)
- b. *‘Ua la le aso.*
 PERF sun ART day
 ‘The sun is shining today.’ (lit. ‘The day suns’) (Mosel & Hovdaugen 1992: 80)

The overlap of lexemes occurring in noun-like and verb-like contexts may or may not be complete (i.e. there can be lexical exceptions), but even if incomplete, it still diverges from the canonical concept of word classes as disjoint sets. Some have argued that lexical overlap must be complete to show that a language lacks a noun/verb distinction (Evans & Osada 2005; Dixon 2009: ch.11),¹ but this approach would reduce word classes to their weakest possible form, in which any lexical exception requires a new class. As pointed out in a commentary by Croft (2005), if followed rigorously this approach would produce radically fragmented classes.

While some languages may not clearly distinguish nouns, verbs and adjectives, other languages have additional major classes beyond the standard ‘big three’. For example some languages have a class of ideophones (Ameka 2001), or noun classifiers (Craig 1986). In some languages, there are two distinct verbal classes, finite verbs and non-finite ‘coverbs’ (McGregor 2002; Amberber et al. 2007). Since languages are different in so many other ways, it is not surprising that they should vary in their major word classes. What is perhaps more surprising is the extent to which they have *similar* classes. Setting aside the often tangled arguments about the universality of the noun/verb distinction, it is nonetheless interesting that most languages make some kind of morphosyntactic distinction, either strict or fuzzy, between words that refer to entities and words that predicate events. Even if this is not true in all languages, its apparent statistical prevalence is a remarkable fact about human language.

¹ Evans and Osada also argue that if a lexeme has semantic differences in noun-like and verb-like contexts, this supports the idea that these are distinct word classes. However it seems highly unusual to treat semantic difference as an indicator of word-class distinctions, as many lexemes exhibit polysemy within the same morphosyntactic context, triggered by specific lexemes with which they combine, e.g. *catch a ball*, *catch a flight* (Pustejovsky 1995). Assuming that these involve the same lexeme *catch*, it is hardly surprising that a single lexeme should also have different meanings in noun-like and verb-like contexts.

3.2. Conversion as word-class flexibility

Lexical flexibility is the theoretical connection between word class research and the theme of this volume, conversion. ‘Conversion’ can be said to occur when the same lexemes occur in noun-like and verb-like contexts (or other class overlaps), and neither context involves a morphological alternation that is regarded as derivational (van Lier & Rijkhoff 2013). Whether proposed as an informal metaphor, or a formal analysis, conversion implies a process by which one lexeme is *changed* into another (Bauer and Valera, this volume). The ‘flexible word class’ analysis instead assumes that the *same* lexeme occurs in multiple contexts.

Application of the conversion analysis also seems to depend on whether contextual overlaps cross boundaries between traditional word classes. While the overlap from noun-like to verb-like contexts is often analysed as requiring a derivation process, one could equally examine ‘overlaps’ between contexts of the same major word class, for example different argument frames for verbs. For example, in English many of the same lexemes occur in causative and resultative frames, such as *I broke the glass* and *the glass broke*. This is not usually analysed as a derivational process (Bauer and Valera, this volume), presumably because both contexts are considered to involve a ‘verb’, and therefore no derivation is required. In the same way, the distinct contexts of mass and count nouns, such as *some wine*, and *three wine-s*, are not usually seen as conversion, because this is not seen as a change of word class. But these differences of treatment may be based solely on traditional assumptions about what should or shouldn’t count as the same word class.

4. Pragmatics

To take stock of the two previous sections: the semantic approach to word classes has been largely dismissed in modern linguistic theory, in favour of the morphosyntactic approach. Word classes such as English nouns lack any consistent semantic character, motivating an approach based on syntagmatic contexts and paradigmatic inflection. Theoretically, the idea is to assign words or lexemes to classes based on the morphosyntactic contexts in which they occur, and even if this method is not rigorously applied, the approximate classes thus defined seem to satisfy the needs of linguistic analysis. At the same time, semantics continues to play an informal role in identifying word classes, and there are some classes that do appear to be quite semantic consistent.

The morphosyntactic approach implies that word classes are only partially based on meaningful, communicative properties, being ultimately defined by purely formal grammatical configurations. This may even imply a somewhat ‘stipulative’ character for word classes, as arbitrary lists of words that happen to appear in the same contexts. But this is somewhat surprising. Why would human language develop in such a way as to have arbitrary listings of words matched to grammatical contexts? Perhaps some of this could be accounted for by individual word histories, but a fully arbitrary system would seem odd. In this section I will suggest that word classes are not as strange as this: even English nouns are not just a list of lexemes that happen to go with determiners. Instead,

the pragmatic character of word classes suggests that they are in fact motivated phenomena of a communicative system.

Some of the best known works on the pragmatics of word classes have claimed that the major classes noun, verb and adjective are associated with ‘discourse functions’ of reference, predication and modification respectively (e.g. Dik 1989; Croft 1991; Bhat 1994; Croft 2001: 88ff.). The idea is that even if membership of word classes is not semantically consistent, they may still be consistent in the kinds of pragmatic roles they play in discourse. However, the approach based on ‘reference, predication and modification’ must be taken as a first approximation. The identification of these three purported pragmatic functions has been criticised as vague, for example noting the lack of detail on the claimed distinction between predication and modification (Smith 2010).² As we will see, there are some more recent studies that provide more detail about the pragmatic functions of word classes, though this topic remains under-researched.

Important contributions to the pragmatic view of word-classes were made by Hopper and Thompson (1984) in their cross-linguistic analysis of nouns and verbs, and by Langacker (1987) in his notion of ‘construal’.³ Hopper and Thompson identify the basic pragmatic function of nouns as to ‘introduce a participant in discourse’ and that of verbs as to ‘assert the occurrence of an event in discourse’ (Hopper & Thompson 1984: 708). But rather than proposing a simple mapping from a discrete word class to a discrete pragmatic function, they propose a more complex system in which introduction and assertion are the prototypical functions of morphosyntactically prototypical nouns and verbs, marked by morphosyntactic contexts such as determiners for nouns, or TAM for verbs. Their approach focuses on the role of words in an unfolding discourse. Concepts encoded as nouns, and especially those encoded with the most prototypical noun morphosyntax such as an article, are established by the speaker as likely targets of subsequent reference. Conversely, if a noun is used to make an assertion, it may lose some of the prototypical morphosyntactic marking, as in French and other languages where some nominal predicates do not permit articles:

(2) *Jean est (*un) étudiant.*

Jean is (*a) student. (Hopper & Thompson 1984: 717)

Morphosyntax also correlates with pragmatics when we compare prototypical verbs, with finite inflection, to deverbal nominalisations. The finite verb context is used to make assertions (3a), while the nominalised context is used for presuppositions (3b) (Cominetti 2023). The presuppositional role of nominalised verbs brings them closer to

² Smith (2010) forcefully argues that the pragmatic approach to word classes is unsuccessful, however much of his critique is arguably about semantics, rather than pragmatics. For example, Smith criticises the idea that verbs and adjectives can be distinguished as expressing transitory and permanent predicates respectively (Givón 1979; Croft 1991), but this seems to miss the point that a pragmatic approach is about how words are used for interactional purposes, *not* the inherent properties of the predicates.

³ Langacker (1987) frames his work on nouns and verbs as a rehabilitation of ‘semantic’ word classes, but since his focus is on how construals go beyond truth-conditional semantics, one can also read his work as a contribution to the pragmatic approach.

the prototypical role of nouns, establishing targets for subsequent reference (Hopper & Thompson 1984: 745), as in (3b).

(3) a. *The car exploded.*

b. *The explosion_i destroyed a garage. We heard it_i from...*

Explode~explosion illustrates the use of morphology to distinguish a prototypical verb from its nominalised counterpart. But as we have seen above, English (and other languages) also exhibit flexibility in allowing many lexemes to appear in noun-like and verb-like syntactic contexts without any morphological derivation. Perhaps aided by relatively simple and regular inflectional structures, English speakers have considerable latitude to redeploy lexemes between nominal and verbal positions, and we can see this as a pragmatic affordance of the language. One type of redeployment that has been described in detail is the way that, when an event can be understood as centrally involving some object, we can redeploy the object lexeme into a verbal context to assert the event (Clark & Clark 1979). For example, if a gap is closed over using bricks, we can conventionally redeploy the noun *brick* into a verbal context to depict the event (4a). But less conventional use of objects can also be verbalised according to discourse context. For example, if a task at hand is done using paper, we can depict that task by redeploying the noun *paper* into a verbal position (4b).

(4) a. *They bricked up the window.*

b. *I papered that one already.*

Pragmatic analysis helps us to understand not only the differences between major word-classes, but also the distinct morphosyntactic contexts of the same class, such as attributive and predicative adjective positions (Thompson 1988; Kaiser & Wang 2021; Sasaki & Altshuler 2023). The attributive position tends to have a presuppositional role, for example helping to identify a cat that you know to be black, rather than asserting its blackness (5a). By contrast the predicate position asserts the property of blackness with respect to a presupposed cat (5b). This highlights that pragmatic functions are not just about word classes in the traditional sense, but more specifically about morphosyntactic contexts, which are the basis of word class analysis.

(5) a. *The black cat ran away.*

b. *The cat is black.*

The pragmatic distinction between attributive and predicative adjectives also sheds light on the claim, mentioned above, that some English adjectives are only used predicatively (e.g. *the children are awake, the *awake children*). If the attributive context is used for presuppositions and the predicative context for assertions, then it may be that predicates such as AWAKE and ASLEEP are rarely relevant as presuppositions, but much more frequently as assertions. From this perspective, the morphosyntactic distribution is motivated, and negotiable, rather than being a purely formal listing of morphosyntactic

compatibilities. This would predict that we might also find attributive phrases like *awake children*, if there are some pragmatic contexts that favour presuppositional wakefulness. This prediction is borne out by natural examples, for example in a description of surgical procedures, where the wakefulness of children has already been established in the discourse:

- (6) *tracheal extubation in fully awake children was associated with a greater incidence of persistent coughing* (von Ungern-Sternberg et al. 2013: 529)⁴

The pragmatic approach to word classes clearly has its own complications. For one thing, it is unclear whether pragmatics offers any insight into grammatical function word classes, or whether it is relevant only to the standard major classes. Secondly, it is clear that pragmatics does not offer a simple solution to word class analysis, any more so than semantics or morphosyntax. For example, while the nominalised *explosion* may have a presuppositional role in the subject position of a clause (7a, repeated from 3b above), it is more assertive when combined with an indefinite article in the predicate position, either in a presentational construction (7b), or as the object of a psych verb (7c).

- (7) a. *The explosion destroyed a garage.*
b. *There was an explosion.*
c. *We heard an explosion.*

This suggests that the connection between pragmatic roles and morphosyntactic contexts does not map neatly onto standard word classes. Rather, it seems that morphosyntactic frames are part of the pragmatic framing of semantic content, alongside higher-level clausal structures, and lexically specific framing devices such as psych verbs. We should therefore not expect pragmatics to provide a neat distinction between nouns, verbs, and adjectives. But pragmatics does appear to have an important role in lexical flexibility, and therefore goes some way to explaining ‘the semantic gap’: English nouns do not always identify concrete objects, because morphosyntactic noun contexts have additional pragmatic functions.

Like the semantic and morphosyntactic approaches, a valid pragmatic theory of word classes must be informed by cross-linguistic research. Unfortunately this is largely lacking at present, although Hopper & Thompson (1984) informally survey pragmatic roles of nouns and verbs in several languages. Most of the existing typological research on word class flexibility takes a more traditional approach to grammar, without considering pragmatic motivations. A worthy goal for future research would be to compare systematically the pragmatic functions of major word class constructions in diverse languages. A similar goal is identified by Grimm & McNally (2022), who call for more cross-linguistic research on the function of nominalisation constructions.

⁴ Example identified by a simple internet search for ‘awake children’.

5. Conclusion

Word classes are at the heart of linguistic theory, playing a central role in much of our descriptive and analytical practice. After decades of scrupulous consideration, one might therefore expect that we would have arrived at a comprehensive theory of word classes. Clearly this is not the case. But perhaps this is not so surprising: having a comprehensive theory of word classes would perhaps amount to nothing less than a comprehensive theory of grammar. If word classes are at the core of linguistic dynamics, then word classes are as complicated, and messy, as language itself.

In this chapter I have reviewed three main approaches to word classes: semantics, which is the most popular outside of linguistics, and perhaps the least popular within linguistics; morphosyntax, which, despite its limitations, is the mainstream current approach; and pragmatics, which is a less-explored alternative approach. A nuanced understanding of word classes should be informed by all three of these approaches.

Structuralist linguists, inspired by a vision of neatly interrelated parts, gave the morphosyntactic approach a forceful hold on modern linguistic theory. But formal distributions only get us so far. If word classes really did apply a neat, discrete categorical structure common to all languages, this might validate a conception of grammar as radically separate from other parts of the mind. But since the formal distributions are messy, and dynamic, we must ask instead what is driving the dynamics. In answer to that I have posed two main arguments. On the one hand, even if semantics does not consistently characterise every word class in every language, there is still evidence that word classes are driven by semantically similar concepts. Therefore we should not ignore the role of semantics, and indeed we might study the degree of semantic (in)consistency more carefully as an interesting comparative dimension of word classes. Secondly, the semantic incoherence of word classes such as English nouns is not just an arbitrary fact of lexical listing. Instead, it is at least partly driven by the pragmatic functions of information in discourse contexts, though more research is required in this area.

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