

Where Have All the Adjectives Gone?

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Where Have All the Adjectives Gone?

and other essays in
Semantics and Syntax

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for Eelsha, Fergus and Rowena

Preface

The essays on semantics and syntax, in this volume, are written from a theoretical position that assigns priority to semantics. To take a certain syntactic or morphological property as starting point invariably leads to a quite heterogeneous list of lexemes which have that property. My approach has been consistently to start with semantically defined classes, and then to investigate their mapping onto syntactic categories; I maintain that only in this way can a clear picture of the link between semantics and grammar be perceived. This approach is particularly important in Chapter 1 (see especially §1.2); the comparison of word classes between languages demands a semantic basis. It is vital to an explanation of the semantic basis of noun (or gender) classes, exemplified in §5.6. The 'semantics prior' approach also underlies the discussion in a number of other chapters.

Six of the chapters (1–5 and 7) were originally written between March 1968 and May 1970, while I was at University College London and, from September 1968 until August 1969, a visitor at Harvard University. I am particularly grateful to Susumu Kuno for employing me (under his NSF grant GS-1934) for the second half of my year at Harvard. Chapter 1 was revised for publication and Chapter 9 written while I was on sabbatical leave in 1976, again at University College London. My time at the Australian National University, from July 1970, has been almost wholly devoted to the grammatical study of Australian languages – completing a grammar of Dyirbal (Dixon 1972); writing a grammar of Yidiny (Dixon 1977), from which Chapter 6 is taken; working on Warrgamay and Nyawaygi (grammars of these two languages should be completed in the near future); and undertaking a general study of the languages of Australia and of their genetic relationships (Dixon 1980). It was only after the last volume had been completed that I could find time to write Chapter 8, on classifiers, which had been in embryo for a decade, and thoroughly revise Chapter 5. The remaining chapters have only been

revised in minor details; I have tried to preserve the flavour of the originals and have also retained the original references (adding more recent ones where it seemed appropriate to do so).

The hypothesis concerning nuclear and non-nuclear verbs, in Chapters 2 and 3, stemmed from work on the Jalnguy or 'mother-in-law' style of Dyirbal, and the ideas about syntactic orientation, in Chapter 4, from the study of adverbials in Dyirbal; I have tried also to explore these topics in the structure of English. My interest in nominal classification (Chapters 5–8) also arose from work on Dyirbal, and later on Olgolo and Yidiny; here I have attempted a wider typological survey. A variety of transcriptional conventions were used for Dyirbal and Yidiny words in the original papers. Here I have adopted a uniform practical orthography (for everything except the language name Dyirbal, where the established spelling is retained). These languages have **13 consonants**:

		apico- alveolar	lamino- palatal	dorso- velar
stop	bilabial <i>b</i>	<i>d</i>	<i>j</i>	<i>g</i>
nasal	<i>m</i>	<i>n</i>	<i>ny</i>	<i>ŋ</i>
lateral		<i>l</i>		

two rhotics: apico-alveolar trill *rr*, and apico-postalveolar grooved continuant *r*, and **two semi-vowels**: lamino-palatal *y* and labial-dorsal *w*. They have **three vowels**: high front *i*, high back *u* and low *a*; long vowels in Yidiny are shown by simply doubling the letter, *aa* and so on.

Abbreviations

NP and VP are used for noun phrase and verb phrase respectively. In some of the sentential examples given, the following morpheme glosses are used:

- ABL – ablative case (motion 'from')
- ABS – absolute case (marking intransitive subject and transitive object functions, with nouns)
- DAT – dative case (marking indirect object, etc)
- ERG – ergative case (marking transitive subject function, with nouns)
- LOC – locative case (rest 'at', 'in' or 'on')

- NOM – nominative case (marking transitive and intransitive subject functions, with pronouns)
- PRES – present tense inflection
- REFL – reflexive derivational suffix to a verb
- SUBORD – verbal inflection marking a subordinate clause

Sources

Chapter 1 'Where have all the adjectives gone?' was researched in 1968-70 and a first draft written in 1970; this was quite widely circulated and referred to. It was revised for publication in 1976 and appeared in *Studies in Language* 1:19-80 (1977). In that revision obscure passages were rewritten, errors corrected and some additional data added; the basic theoretical stance, argumentation and conclusions remained unchanged from the 1970 version. For this reissue only a few minor alterations have been made, and some further references added.

Chapter 2 'A method of semantic description' was essentially a condensation and revision of the semantics section of my PhD thesis (Dixon 1968: 230-433). (The sections on grammar and phonology were revised and expanded, and published as Dixon, 1972; further fieldwork on the lexicon of Dyirbal is continuing, and I hope eventually to put out a full account of the semantics.) It was written in early 1969 and appeared as pp. 436-71 of *Semantics: an interdisciplinary reader in philosophy, linguistics and psychology*, edited by D. D. Steinberg and L. A. Jakobovits, Cambridge University Press, 1971. In revising it for this volume corrections have been made to a number of grammatical observations (I did not attain a full understanding of the grammar of Dyirbal until a field trip in late 1970), and the terminology was adjusted to conform with that in Dixon 1972. §2.1.2, on the conditions under which Jalnguy was used, has been revised in the light of further field research, 1970-1979. No other substantial changes have been made.

Chapter 3 'The semantics of giving' was written in 1969-70 and given at a conference in Paris in April 1970. It appeared as pp. 205-23 of the volume of conference papers, *The formal analysis of natural languages*, edited by M. Gross, M. Halle and M. P. Schützenberger, Mouton, 1973. It was reprinted, with explanatory notes in Japanese, as pp. 49-78 of *Selected theses on linguistics*, 1975 edition, Eichōsa (Tokyo). Only minor changes have been made for this reissue, and a few extra notes added.

Chapter 4 'Syntactic orientation as a semantic property' was written in early 1969 and published informally as pp. 1-22 of *Mathematical linguistics and automatic translation, report NSF-24*, Harvard University Computation Laboratory, 1970. It was reprinted as pp. 347-62 of *Syntax and semantics, Volume 7 – Notes from the linguistic underground*, edited by J. D. McCawley, Academic Press, 1976. Only very minor changes have been made for this reissue.

Chapter 5 'Noun classes' appeared in the Reichling Festschrift volume of *Lingua* 21:104-25 (1968). It has been completely rewritten and revised for this volume.

Chapter 6 'Classifiers in Yidiny' is closely based on pp. 480-496, 113-14, 184-5, 327-8 of *A grammar of Yidiny* (Cambridge University Press, 1977). It does not contain anything which is not in that book.

Chapter 7 'Olgolo syllable structure and what they are doing about it' was published in *Linguistic Inquiry* 1:273-6 (1970). It has been fairly thoroughly revised for this volume.

Chapter 8 'Noun classifiers and noun classes' was written specially for inclusion in this book, in 1979.

Chapter 9 'Semantic neutralisation for phonological reasons', from *Linguistic Inquiry* 8:599-602 (1977), is reprinted here with the addition of one reference.

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I am grateful to the original publishers of Chapters 1-7 and 9 for permission to include them in this volume.

Professor C. H. van Schooneveld, the publisher's academic editor, invited me to put together this collection. A wish to gain wider circulation for the title paper (it appeared in the first issue of a new periodical, which had a low circulation at that time), and to publish a paper on classifiers together with a revision of the 1968 essay on noun classes, were largely responsible for my accepting his generous offer.

The data-gathering and research for these studies was variously supported by the Australian Institute of Aboriginal Studies, the Central Research Fund of the University of London, the National Science Foundation (grant GS-1934 to Harvard University), the Australian Research Grants Committee, and the Australian National University.

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I can never sufficiently emphasise my debt to George Watson, the late Chloe Grant and the late Dick Moses who first explained the intricacies of Dyirbal and Yidiny to me, sowing the seeds for many of the ideas in this volume.

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PART A

1. Where have all the adjectives gone?

1.1 Introduction

In writing the grammar of any language, a linguist will recognise a number of parts of speech, or word classes. There will usually be a number of minor parts – small, closed classes such as Pronoun and Preposition – and a number of major parts of speech – large, open-ended classes such as Noun, Verb and Adjective. The recognition of word classes within a language depends on morphological and syntactic criteria; linguists have devoted considerable attention to discussion of suitable criteria.

Similarities can be recognised between word classes in different languages – for instance, the term Noun can be used for major classes in two different languages, even though these classes may have rather different morphological and syntactic properties (compare English – where a noun is partly defined in terms of its potential for co-occurrence with an article – with Latin – where a noun is defined partly in terms of its possibilities of case inflection). Recognition of such inter-language correspondences involves semantic, and perhaps universal-syntactic, criteria. Linguists have paid almost no attention to the formulation of criteria of this kind (this has been at least partly due to the lack of any adequate semantic theory).

It is a fact that inter-language class correspondences *are* made, on an intuitive basis, and *are* valuable. When a linguist works on some new language he will first set up word classes, using grammatical criteria internal to the language. He will then name the classes. It is an empirical fact that there is *always* a major class that is aptly termed Noun: there is *never* any doubt as to the applicability of this traditional label, and *never* any question as to which class should be called Noun. Readers of the grammar find the class names helpful, and are able to make predictions on the basis of them, that are in most cases realised.

2 Part A

§1.2 discusses the theoretical basis for inter-language class correspondences. The remainder of this section presents some suggestive data and delimits the topic of the paper.

It is interesting to enquire whether all languages have the major classes Noun, Verb and Adjective. It seems that they do all have Noun and Verb – at least, I know of no convincing counter-examples to this assertion.¹ However, not all languages have the major word class Adjective. Either they have no Adjective class at all, or else there is a small non-productive

1. A number of languages which have been reported to have no Noun/Verb distinction have been looked at in some detail. In the case of Fijian (Milner, 1956) the author has stated (private communication) that the non-recognition of a Noun/Verb distinction was a feature of the descriptive model used rather than of the language – the distinction can in fact be drawn on syntactic/morphological grounds. The best-known 'examples' of languages lacking a Noun/Verb distinction are the Wakashan family – Nootka, Kwakiutl, Nitinat, and so on (Whorf, 1956:98; etc.). But in all these languages it seems that, although noun and verb classes have many grammatical properties in common, there are enough differences to justify the recognition of separate parts of speech. Thus Boas (1947:205) on Kwakiutl: 'while stems cannot readily be divided into a nominal and a verbal class, the distinction between personal and possessive pronominal suffixes proves that the two classes are distinct' and 'the noun derived from a verb retains its verbal character insofar as it may take an object or instrumental'. In addition, 'nominalising suffixes' can only occur with verbal stems. The point here is that each root is, in Kwakiutl (as in other languages), *basically* a noun or a verb or etc. (we are here referring to the 'deep level', explained in §§1.2.4-6); but Kwakiutl is rich in derivational processes and each root can have surface membership of both major parts of speech. Similarly, in Nootka, we can have 'man-VERBAL ENDING large-NOMINAL ENDING' meaning 'The large one is a man' or else 'large-VERBAL ENDING man-NOMINAL ENDING' meaning 'The man is large' (Swadesh 1938:78). Swadesh insists that 'normal words do not fall into classes like noun, verb, adjective, preposition, but all sorts of ideas find their expression in the same general type of word, which is predicative or non-predicative according to its paradigmatic ending'; he does however notice (1938:98-9) that there are seven sets of 'special reference stems' and that each lexeme selects just one set (each set involves a pronominal-like 'indirect reference stem', a 'relative stem' and an 'interrogative stem'). He then mentions that 'the seven sets of special reference stems suggest a semantic classification of lexemes, which also has significance in the internal syntax, since different implicit derivations and other syntactic peculiarities are limited to combinations of lexemes of given categories of meaning, some of which correspond to these'. Swadesh then sets up seven classes – four closed ones (Location, Time, Quantity and Indication) – and three open ones (Entity, State and Action). Of the open classes, 'Entity' – containing 'a considerable number of stems referring to species of flora and fauna and supernatural beings, age and other classes of people and other beings, body parts, groups of classes of objects according to shape, and other entities' – would be very aptly termed 'noun'; 'State' – expressing 'quality, condition, color, size, position, mental state or attitude, condition of the weather, and other notions' – could be termed 'adjective', and 'Action' – expressing 'movement and various other activities' – appears to correspond to what is called 'verb' in other languages. Thus, far from it being impossible in Nootka to distinguish Noun and Verb, perfectly good criteria can in fact be given for distinguishing Noun, Verb and Adjective.

minor class that can be called Adjective. In either of these cases it is interesting to ask how the language gets along without a full Adjective class. That is, how does it express concepts that are expressed through adjectives in languages, like English, which do have this major class. There is no simple answer to this question. Some adjective-deficient languages express all adjectival concepts through intransitive verbs² (as in the case of Chinese), others express some through nouns and some through verbs (for example, Hausa), and others invoke further means (Chinook renders adjectival concepts through the major classes Noun and Verb and the minor class Particle). In this paper we examine these various means, and attempt to draw some conclusions concerning universal semantic 'types' and their part-of-speech associations in languages of different typological kinds. We restrict ourselves to 'descriptive adjectives' (Bloomfield 1933:202). Some of the adjective classes we mention also contain a few 'limiting adjectives' – numbers, 'some', 'this', 'other', 'how many' and the like; these are entirely ignored in the present study.

For languages which have the major class Adjective, the semantic content of the class is fairly constant from language to language. Thus an adjective in English will normally be translated by an adjective in the Australian language Dyirbal, and vice versa.³

Languages that have only a limited class of adjectives show considerable similarity in the concepts that are expressed through adjectives. For instance, in the case of Igbo (from the Kwa subgroup of the Niger-Congo family) formal criteria support the recognition of an adjective class with just eight members, making up four antonym pairs (Welmers

2. 'Intransitive' is here used in a wide sense, and includes those verbs which must take an obligatory indirect object but no direct object. For a language with syntactic case inflections the criterion would be 'any verb which cannot occur with both a nominative NP and an accusative NP (or an ergative NP and an absolutive NP, in an 'ergative' language) is intransitive'; this can be extended in appropriate ways for languages that show syntactic function solely by word order.
3. Almost every adjective in Dyirbal would be translated by an adjective in English and vice versa. There are some exceptions – Dyirbal has some verbs describing 'feeling ill' or 'tired' that would have to be rendered by adjectives in English; and in one dialect of Dyirbal the concept 'hungry' is rendered by a verb rather than an adjective – but they are extremely minor. It is interesting to note that (on a dictionary count) about 12-15% of the most frequent roots in English are adjectival, and about the same percentage of the most frequent 2,000 in Dyirbal are adjectival.

4 Part A

and Welmers 1969; Welmers 1973):

úkwú	'large'	ńtà	'small'
òhù'rù	'new'	ócyè	'old'
ójí'i	'black, dark'	òcá	'white, light'
òmá	'good'	òjò'ò	'bad'

The Chadic language Hausa – which, although spoken only a few hundred miles from Igbo, is not known to be genetically related to it – has a small, closed adjective class with about twelve members:⁴

babba	'big'	qarami	'small'
		qanqane	'small'
dogo	'long, tall'	gajere	'short'
danye	'fresh, raw, unripe'		
sabo	'new'	tsofo	'old'
baqi	'black'	fari	'white'
		ja	'red'
		mugu	'bad'

All Bantu languages have a minor class Adjective, with membership ranging from less than ten items to forty or fifty (and with about thirteen descriptive adjective roots reconstructable for Proto-Bantu). The Southern Bantu language Venda (Doke 1954:166/7), for instance, has the following adjectives:

-hulu	'big'	-tuku	'small'
-lapfu	'long'	-pfufhi	'short'
-denya	'thick'	-sekene	'thin'
-nu	'wet'		

4. Grammars of Hausa basically agree on these twelve adjectives. Abraham (1959) mentions that *babba* 'big' and *ja* 'red' do not have separate masculine and feminine forms; the other forms given have distinct masculine and feminine endings in the singular. Migeod (1914) lists *baba* 'big' as an adjective but then says that it 'is in reality a noun meaning "greatness"'. Taylor (1923), Robinson (1925) and Migeod also include several more colour adjectives – for instance *rawaya* 'yellow' which is more appropriately classified as a noun, being primarily the name of 'a plant with a tuberous rhizome from which a yellow dye is obtained . . .' (Bargery, 1934:848). Some of the grammars also mention a few further 'borderline adjectives' but do not agree concerning these.

		-tete	'soft'
-vhis	'raw, green'		
-swa	'young, new'	-lala	'old'
-rema	'black'	-tshena	'white'
-tswu	'black'	-tswuku	'red'
-setha	'yellow'	-khwivhilu	'red'
-vhuya	'good-natured'	-vhi	'bad'
-hulwane	'important'		

Languages with very small adjective classes are found in other continents – Birk (1976) reports a class of only seven items for the North Australian Malak Malak (they are 'large, small, short, young, old, good, bad'); and study of Sapir's (1930/31) materials on Southern Paiute reveals an adjective class of about a dozen items ('large, small, long, short, new, old, good, high, strong, hard, cold').

Some languages may have slightly larger classes. Burrow and Bhattacharya (1970) report about 20 for the Dravidian Pengo, Samarin (1967) lists 30 or so 'adjunctives' (words which function as adjectives and/or adverbs) for the Central African Creole Sango, and Hoff (1968: 259) mentions that his material 'contains not more than 43 monomorphemic words' belonging to the adjective class in the Guianese language Carib.

In some languages that have a major class Adjective, a few members of the class are set off from the rest by virtue of a certain morphological property. For instance, in the Austronesian Rotuman (C. M. Churchward, 1940:39), just twelve members of the open-ended adjective class have distinct singular and plural forms:

ti'u	'big'	mea'me'a	'small'
roa	'long'	luka	'short'
hepa	'broad'	jiakjika	'narrow, thin'
'atakoa	'whole, complete'		
		mafua	'old'
kele	'black'	fisi	'white'
		mi'a	'red'
		hāni	'female'

Yurok, an Algonquian-affiliate from California, has only two major classes, Noun and Verb; English adjectives are translated by Yurok intransitive verbs. A small subset of the verb class is set off from the rest of

the class by a special property: members of the subset have variant stem forms, selected by the covert category of the noun they qualify (the covert categories include 'humans', 'tools', 'long things', 'flat things', 'houses', etc. – see §8.4.2 below). The subset includes numbers, and about eleven adjectival roots (nine are quoted in the form for the category 'human'; 'grey' and 'flat, smooth' for the category 'round things' – Robins, 1958):

peloy-	'big'	cey(kel-)	'small'
knewolep-	'long, tall, 'high'	tk ^w ep-	'short, low'
to ^o moh	'thick, wide'	mesi2r(on-)	'thin, slender'
skɪwɪhkɪy-	'flat, smooth'		
lo2ogey(ow-)	'black'	muncey(ow-)	'white'
pɪk ^w ɪh	'grey'	pɪkɪyɪ2ɪy(-)	'red'

The Nilo-Saharan language Acooli has a closed class of about 40 adjectives. Seven of these are set off from the rest of the class by having distinct singular and plural forms (Crazzolara, 1955):

diit	'great, big, old (of persons)'	tēdi	'small, little'
dwóòŋ	'big, large (of volume)'		
boòr	'long, high, distant (of place and time)'	ceèk	'short'
bèèr	'good, kind, nice, beautiful'	raàc	'bad, bad tasting ugly'

The other adjectives in Acooli include 'new', 'old', 'black', 'white', 'red', 'deep', 'shallow', 'broad', 'narrow', 'hard', 'soft', 'heavy', 'light', 'wet', 'unripe', 'coarse', 'warm', 'cold', 'sour', and 'wise'.

The lists we have given – of complete adjective classes, and of morphologically-determined subsets of larger classes – show a good deal of similarity of content. All contain 'large (= big)' and 'small (= little)', all but Igbo have 'long' and all but Igbo and Malak Malak 'short'. 'Black' and 'white' occur in each list save that for Acooli (and these are in the full adjective class for Acooli).

When the sample of languages is widened, the pattern of recurring

semantic types is confirmed. A survey of 17 languages with small adjective classes, together with the morphologically-determined subsets in Rotuman, Yurok and Acooli, yielded the following result:⁵

'large' occurred in all 20 languages	'good' in 13
'small' in 19	'bad' in 14
'long' in 14	'black' in 13
'short' in 15	'white' in 14
'new' in 15	'red' in 8
'old' in 14	'raw, green, unripe' in 7

The size of the classes in the 20 languages ranged from 7 to 24, with an average of 13. Other glosses that recurred in more than a single language were wide (2 languages); thick (2), thin (3); sharp (4), blunt (2); heavy (5), light (5); soft (2); strong (3); hot (3), cold (2); wet (2); sour (2); whole (= complete) (2); fierce/angry/wild (3); generous (2); female (3) and beautiful (3). Note that Xhosa has 'pretty/beautiful' and 'bad/ugly' (in addition to 'large, small; long; new, old') but the adjective class has no term glossed simply 'good' (McLaren 1936:63).

We have noted, firstly, similar semantic contents of major adjective classes in languages which have these. Secondly, similarities of content between minor classes and, to a degree, between minor classes and morphological subsets of major classes. These similarities are suggestive of the existence of some type of syntactico-semantic universals and these we attempt to investigate in the remainder of the paper.

5. Besides the six languages exemplified above, and MalakMalak and Southern Paiute, the sample included seven from Africa: proto-Bantu (supplied by the late Malcolm Guthrie – see also Guthrie 1967-71), Bemba (see §1.4.2), Ndebele (data from Owen Nancarrow) and Xhosa; Gbeya from the Adamawa-Eastern branch of Niger-Congo (Samarin, 1966); the Nilo-Saharan language Kanuri (Lukas 1937); and the Togo-Remnant tongue Avantine (data from Kevin Ford). Also the Australian Tiwi (data from Charles Osborne – and see Osborne 1974); the Uto-Aztecan Tarahumara (Thord-Gray 1955); Algonquin (data from T. S. T. Henderson); Hua, a language spoken in the eastern highlands of New Guinea (data from John Haiman); and the Munda language Sora (data from Stanley Starosta).

1.2 Theoretical preliminaries

1.2.1 The priority of semantics

We work from the assumption that the syntactic properties of a lexical item can largely be predicted from its semantic description. Semantics is thus held to be prior to syntax. The ways in which syntactic properties can be predicted on the basis of semantic representations are complex, and are not yet fully understood; in the following subsections we provide informal exemplification of some of the known ways.

First, imagine a mature speaker learning a new word. Suppose that he initially acquires a fullish knowledge of its semantic possibilities, without encountering it used in very many complex constructions. On the basis of his semantic competence, and his understanding of the general connections between semantic types and syntactic properties in that language, he immediately knows how to use the word in a syntactically acceptable manner. That is, he is able to predict its syntactic properties on the basis of the semantic specification. All this is fully in accord with the 'semantics prior' position.

Now, let us consider the alternative 'syntax prior' position, which asserts that syntactic information is essentially independent of, and not inferable from, semantic specifications. In terms of this position, the semantic information the speaker has acquired will be of little use to him in his syntactic sub-categorisation of the new word. Suppose that the item is a verb; then in order to work out which types of object noun phrase complements, say, it could occur with, the speaker would just have to keep his ears open. After a year or so he might subconsciously muse 'I have heard the verb used with *THAT* complements but never with *FOR-TO* or with *POSS-ING* complements' and would thus mark the item '+*THAT*, -*FOR-TO*, -*POSS-ING*' in his mental lexicon. Only then would he be able to use the verb productively and correctly. Obviously, this bears little relation to what happens when a speaker learns a new word, demonstrating the untenability of the 'syntax prior' position.

There will of course be a few residual exceptions in syntax (items which have idiosyncratic properties, that have to be learnt point-by-point) just as there are often irregularities in morphology. But we maintain that the overwhelming majority of syntactic properties of lexical items are predictable from their semantic descriptions, once an adequate semantic theory is evolved and the general principles of semantic-syntactic correspondence for each particular language are worked out.⁶

1.2.2 Semantic types

I suggest that the lexical items of a language fall into a number of 'semantic types' (each item belonging to just one type). The division into types can be justified in terms of the syntactic/morphological properties of the members of each type; in addition, a non-disjunctive definition can be given for the overall semantic content of each type. These types are almost certainly linguistic universals. By this I mean that each language has the same array of types, with more-or-less the same overall semantic contents; however, the morphological/syntactic properties associated with particular types will vary from language to language, and must be learnt for each individual language. (My 'semantic type' is similar to Whorf's notion of 'cryptotype' – for instance, Whorf 1956:70, 92-3).

Each semantic type has, in a particular language, certain 'norm' syntactic and morphological properties. *Each* member of the type exhibits the norm properties. In addition, there will be a number of 'extensional' properties, each applying only to *certain* members of the type. There are at least two kinds of factor determining whether a certain member of a type has a particular extensional property. First, just those members of the type that bear a certain semantic feature may have a certain extensional morphological or syntactic property; there is in this case a clear division between those members of the type that have the extensional property, and those that lack it. Second, just the most frequent – and usually semantically most general – members of the type may have a certain property; here there will be no clear cut-off point – some members of the type will quite clearly have the property, others will barely have it, and a final set will almost certainly lack it.

6. This is acknowledged to be a more-or-less heretical doctrine at the present time (when syntax is held to be the central area of linguistics, even by those scholars who pride themselves on being 'semantically oriented'). The lack of syntactic-semantic congruence (when viewed from the syntactic end) is admitted by most modern workers to be an unfortunate but unavoidable fact of language, about which nothing can be done. There is perhaps an analogy to the state of comparative linguistics before the neo-Grammarians – linguists were not at all concerned at the plethora of exceptions; but once the neo-Grammarian doctrine was expounded, explanation was found for most (although by no means all) of these. Similarly, I believe that if semantic types are taken as prior, and their syntactic implications examined in detail, the number of words which have to be admitted to show ad hoc syntactic properties will be very greatly reduced.

1.2.3 Examples of syntactic properties

A particular property may be the norm pattern for a certain semantic type, an extensional property according to one criterion for a second type, and an extensional property according to some other criterion for a third type. Thus the class of all the words which have the syntactic property is semantically quite heterogeneous (and it is undoubtedly this sort of readily observable heterogeneity that has suggested to some linguists that syntax is largely independent of semantics).

For instance, the class of verbs that can take an object FOR-TO noun phrase complement (with optional extraposition) is, as listed by Rosenbaum (1967:121), extraordinarily heterogeneous. Occurrence in this construction appears to be an extensional property for several different semantic types. For instance, the LIKING type has the norm property 'taking POSS-ING complement'; all the members of this type – *like*, *hate*, *love*, *dislike*, *loathe*, and so on – take this complement. However, only certain of the most common members of the type can, extensionally, take FOR-TO complements – *like*, *hate*, *love* have the extension whereas *dislike* and *loathe* are lacking it. We can say *I like (John's) drinking beer*, *I dislike (John's) drinking beer*, *I like (John) to drink beer* but hardly **I dislike (John) to drink beer*.

In the case of a number of other types, only those members which have the additional semantic feature 'futurity (or something similar)' can take FOR-TO object NP complements. For instance, the norm construction for the SAYING type is with a THAT complement. But from this type *promise* – which has the feature 'futurity' – can, extensionally, take a FOR-TO complement as well. Other members of the type – *state*, *answer*, *assure*, *hint* and so on – lack this extensional property.

Thus the class of verbs that can take FOR-TO object NP complements includes odd items from a number of different types. The class itself has no semantic homogeneity; but the property of taking FOR-TO complements can be predicted on the basis of semantic type, and so on. Note that in the case of LIKING verbs there is no fixed cut-off point. Most speakers are unhappy with **I dislike (John) to drink beer* and even less happy with **I loathe (John) to drink beer*. But this is a matter of degree, and individual thresholds vary. For SAYING verbs the cut-off point is somewhat clearer – **I assured (John) to go* is quite unacceptable, for all speakers.

These examples are tentative, and the details might need revision after more detailed work on verb types and complement properties. But they

should serve to exemplify the theoretical point being made. More detailed examples are given in §1.3 'Adjective types in English'.

1.2.4 Part of speech membership

Many words in English (as in some other languages) belong to more than one part of speech: *laugh* is both a noun and an intransitive verb, as is *rain*; *march* is a noun, an intransitive verb, and a transitive verb; *narrow* is an adjective, an intransitive verb and a transitive verb; and so on. However, speakers have fairly strong intuitions that *laugh* and *march* are basically intransitive verbs, *rain* is basically a noun, *narrow* basically an adjective, and so on.

Decisions as to which of several part-of-speech memberships is 'basic' for a given word can also of course be made on analytic grounds. For instance, we can note that the adjective *wide* is the morphologically unmarked member of the pair *wide*, *widen*; there is here a derivational affix *-en* that derives verbs from adjective roots, giving *widen*, *deepen*, *shorten*, and so on. *Narrow* is plainly a member of this semantic type, leading us to set up the equivalence

verb *narrow*: adjective *narrow*
 :: verb *widen*: adjective *wide*

Thus, taking *narrow* as basically an adjective leads to a maximally simple general statement of syntactic properties for the natural semantic class of 'dimension' words. In all cases I have investigated, intuitive judgements as to basic-part-of-speech membership coincide with analytic decisions.

I assume that each semantic type has basic or 'norm' connection with a single part of speech. Each member of that type belongs to that part of speech. In addition, some members of the type may, by extensional derivation, also be associated with other parts of speech. The terms 'deep' and 'surface' can conveniently be used to refer to norm, and norm-plus-extensional class memberships. Thus *laugh* is a deep verb; at the surface level it is both verb and noun; and so on.

Extensional derivations are in some cases morphologically marked – for instance, surface noun *decision* is derived from deep verb *decide* – at other times not. In some cases a particular derivation may be overtly marked for certain words but not for others; we have seen that *narrow* patterns like *wide*, but whereas the inchoative and causative forms of *wide* are *widen*, those of *narrow* have the same form as the adjective

(there are phonological/historical reasons for this, discussed in §1.3.4).

It should be noted that syntactic derivation has little effect on the semantic content of a word. *Decision* has almost exactly the same content as *decide*, this being a particular restriction from the overall content of a semantic type associated with the part of speech Verb. Similarly, the surface verb *rain* has the same semantic content as the noun *rain*, which belongs to the type WEATHER, along with *snow*, *hail*, *fog* and so on; note that the extensional property of verb derivation also applies to *snow* and *hail* but not to *fog* (on this see §4.2.2 below) while the extensional property of adjectival derivation through the suffix *-y* applies to *rain*, *snow* and *fog* but not to *hail*.

Just as we have homonyms – words with the same form but unrelated meaning – so there are some words that are related together in a regular morphological paradigm but have only a tenuous semantic connection (rather than the regular semantic connection normally associated with this morphological pattern). This is often the case with very common words, where historical shift has effected a degree of semantic separation between forms that were once related by a productive process – thus verb *do* and noun *deed*; verb *act* and noun *action*; adjective *pure* and adverb *purely*. All these must, within a description of present-day English, be considered distinct lexical items; there is of course some semantic similarity but it is not stateable in terms of a general derivational process.

1.2.5 Semantic types and parts of speech

We began by suggesting that semantic types were probably linguistic universals. In the last section it was asserted that each type has, in a particular language, ‘basic’ (or ‘deep’) association with a single part of speech. We also remarked that the major parts of speech vary from language to language – all languages appear to have Noun and Verb but some lack a major class Adjective. From this it is clear that some semantic types must be associated with different parts of speech in different languages.

The universal semantic types probably include MOTION (items like *go*), AFFECT (*hit*, *cut*), GIVING (*give*, *donate*, *lend*), CORPOREAL (*laugh*, *sneeze*), OBJECTS (*stone*, *tree*), KIN (*uncle*, *son*), DIMENSION (*large*, *deep*), COLOUR (*black*, *white*, *red*), VALUE (*good*, *bad*), and so on. Now each language arranges the types into a small number of groups – these groups are its major parts of speech. MOTION, AFFECT, GIV-

ING, CORPOREAL, and other types seem almost always to be classed together – this is the class that is in all languages called Verb. OBJECTS, KIN, and other types are almost always classed together – this is the class that is in all languages called Noun. There are some exceptions to this: for instance, KIN, is grouped with AFFECT and MOTION into the verb class for the Hokan language Yuma, so that the nominal ‘father’s father’ is derived from an underlying root *napaw* ‘to call someone father’s father’ (Halpern, 1942). However, the exceptions are fairly rare, and do not seem very extensive in the case of any single language. Whatever the extra types included in a particular grouping for a given language, ‘Noun’ is always used for that grouping which includes the criterial type OBJECTS, and ‘Verb’ for that grouping which includes the criterial types MOTION, AFFECT, GIVING and others.⁷

The greatest variation is found in the adjective class. Languages – like English and Dyirbal – that have an open class of adjectives include in this a constant array of types: DIMENSION, COLOUR, VALUE, and four or five others. Languages which have no adjective class, or only a small closed class, tend to distribute some of the normal adjective types amongst the other parts of speech. In this chapter I attempt to isolate those semantic types that are associated with the major class Adjective, for languages that have this class; and to make generalisations about their typical part-of-speech associations in languages lacking the major class.

1.2.6 Summary

I have thus distinguished three levels of description. They are:

(I) UNIVERSAL SEMANTIC LEVEL. A dictionary item in a certain language first of all belongs to a certain universal semantic type. For instance, English *black* belongs to the type COLOUR and *march* to the type MOTION.

(II) BASIC OR ‘DEEP’ LEVEL. The semantic type to which the item belongs will have norm association with a single part of speech in the language. In English, COLOUR is grouped with the major class Adjective, and MOTION with the class Verb. Thus *black* is a deep adjective and *march* a deep (intransitive) verb. These associations can be justified

7. Other, interlocking, criteria for universal ‘noun’ and ‘verb’ classes concern universal-syntactic functions, and so on; no attempt is made to discuss these here.

on internal grounds – they yield an optimally simple and revealing statement of semantico-syntactic correspondences for the language – and accord well with speakers' intuitions.

(III) SURFACE LEVEL. In addition to its norm syntactic and morphological properties – common to all members of its type – a word may have some extensional properties, including derivational membership of other parts of speech. These extensional properties can be predicted from the semantic representation of the item. *Black*, and some of the other colour terms in English, form inchoatives/causatives – *blacken* (for discussion see §1.3.4). A number of verbs of motion – including *march* – form nominals that have the same phonological shapes as the verbs. Thus we have, at the surface level, adjective *black* and verb *blacken*, verb *march* and noun *march*.

These examples may have implied that surface part-of-speech memberships in each case include the deep membership. This is in fact usually, but not always, so. For instance, the surface noun *opinion* is, like *decision*, related to the class Verb at the deep level; but whereas the verb *decide* is as common as noun *decision*, the semi-archaic verb *opine* occurs in probably a minority of present-day English dialects. As a member of the same semantic type, the surface noun *verdict* must also relate to a deep verb, and in this case there is not even an archaic verb to lend surface plausibility to the deep assignment. *Opinion* and *verdict* are said to be deep verbs on both intra- and inter-language criteria. Within a grammar of English, we can make the correct generalisations about their and other items' syntactic behaviour only in terms of such an assignment.⁸ Looking outside the language, the assignment is confirmed by recognition of certain universal semantic types, with certain typical semantic contents and part-of-speech associations.

1.2.7 Procedure to be followed

In the rest of this paper I attempt to discover the typical Adjective types,

8. For instance, HUMAN PROPENSITY adjectives (see §1.3) can qualify nouns referring to humans (and certain higher animals, etc) and also nominals derived from certain types of verbs – we have *clever man*, *clever decision*. If *opinion* and *verdict* were held to be deep nouns, rather than surface nominals derived from deep verbs, then we would have to set up a third class of items that can be qualified by human propensity adjectives, in order to account for *clever opinion* and *clever verdict* – thus weakening a generalisation.