

JESPERSEN'S V. HUDDLESTON'S SYNTACTIC ANALYSIS

by
Sigfrido Di Giorgi¹

Huddleston's syntax as illustrated in his *English Grammar, An Outline* (1988) is compared thoroughly with Jespersen's syntax. Their respective parts of speech, constituents and syntactic functions are examined and contrasted. The process of sentence analysis is expounded in detail for the two grammars. In the case of Huddleston, the analysis results in a cumbersome bidimensional constituent structure matrix whereas, in the case of Jespersen, systematic use being made of his algorithm as presented in *Analytic Syntax* (1937), the analysis boils down to an agile linear formula of bright simplicity. A large number of comparative analyses conclude the study, in the course of which Jespersen's formalism proves its extraordinary vitality.

Overview

The aim of this study is to prove that Jespersen's formalism, which was presented in his book *Analytic Syntax* (hereafter AS), published in 1937, may be successfully applied, even if it is taken as it was in its original version, to sentences analysed along the lines of up-to-date and sophisticated grammars such as Huddleston's *English Grammar, An Outline* (Cambridge University Press, 1988). The inevitable imperfections of Jespersen's system in the eyes of modern linguists, of which the most serious is perhaps the non-representation of the article, could be easily rectified by introducing those alterations and extensions suggested by the descriptive and theoretical advances made since then in linguistics.

Nevertheless, my main concern about Jespersen's formalism is the enormous loss which derives from the state of neglect in which it has been left by educational establishments. There is tremendous educational potential in it which has remained unexploited. Let me quote what McCawley (1970) wrote in his review of the 1969 reprint of AS:

However, whatever faults AS may have, it is a sheer joy to read and an incomparable source of insight into the workings of the English language. It is a work which every linguist should read with great care, and which it should be unthinkable to omit from the training of any linguistics student. (1970:448)

There must be a number of reasons that explain this neglect, but the one I think most important is an unwillingness on the part of language teachers and learners to make the effort to understand Jespersen's formalism. This is the reason why I insist so much on the 'simplicity, manageability and versatility' (Di Giorgi 1994:ix) of Jespersen's formulas in my book. I am completely convinced that Jespersen's formalism is accessible also to ten-year-old learners and should be introduced into secondary schools when students begin to study logical analysis, at the age they are taught algebra and its formalism after arithmetic. My fear about 'improvements' of the system is that they would result in further complexity and this would make Jespersen's formalism even more repulsive to many than it has been till now, and its desired greater diffusion would be still more difficult. Priority should be given to the teaching of the system, as it was designed by Jespersen, to university students, who are the teachers of tomorrow. Their immersion into Jespersen's syntax would greatly facilitate their comprehension of the sophisticated grammars of today. Once the system became more ingrained and consolidated in schools and universities, improvements would inevitably follow.

Preliminaries

In illustrating the merits of Jespersen's algorithm I considered two options. The first was simply to explicate the system as a system, confining my observations to Jespersen's AS alone. The second was to examine it alongside the study of some more recent grammar. I have selected the second option, in the belief that the value of the algorithm will be even more apparent when seen in comparison with another system. The next question, then, was what system to compare it with. Here I decided to draw on personal experience. In 1991 I attended a course on English grammar at the University of Turin. The standard text at that time was Huddleston's *English Grammar, An Outline* (hereafter HG). I found the textbook heavy going. In exasperation, I turned to Jespersen's grammar (henceforth JG), and began to compare HG and JG in a systematic fashion. As a result of this comparison, I became aware of many features of HG that might otherwise not have caught my eye. Furthermore, the comparison made it even more obvious to me than it had been before that Jespersen's algorithm is not only a concise way of representing syntactic structures (and conciseness

is valuable in itself), but something which has an added value of its own, as have all the formal systems used in science (e.g. algebra, matrix calculus, etc.).

The knowledge of the symbols and technical terms used by Jespersen and Huddleston is a prerequisite for this study. All the symbols and their meanings are listed in Appendix I. Many technical terms appearing in this appendix are used in the most elementary grammars (e.g. S for subject, O for direct object, I for infinitive, G for gerund etc.) and do not need any detailed explanation. All the others, some of which are not symbolized, are introduced and (where necessary) defined at appropriate places in the body of this article.

There being no formal rules in HG, a linear Huddleston notation like the following

Those going by bus should assemble at 6
S:NP=Head + Mod:PrPCL P CatC: InfCl=P+Mod

is only a hint of the full analysis, and the pairing of symbols with words or phrases is left to the willing reader's fantasy. The above example must be deciphered as follows: the subject *those going by bus* is a NP having *those* as head and the present-participial clause (PrPCL) *going by bus* as modifier (Mod); what follows the subject is *should*, which is the predicator (P) having the infinitival clause (InfCl) *assemble at six* as catenative complement (CatC), where *assemble* is P and *at 6* is Mod. The entire analysis requires a bidimensional constituent structure matrix of the kind illustrated on p. 28.

On the other hand, a Jespersen formula is the result of a syntactic algorithm which obeys well-defined rules and represents an exhaustive analysis of the sentence. The rules of the algorithm are explained thoroughly in section 4.

The overwhelming majority of sentences which I examine in the article are taken from HG. In section 1, the group of sentences on p.8 come from JG. In section 2, the sentences on pp. 11, 15, 16, 17, and most of those on p. 18 are of Jespersenian extraction, as well as, in section 3, those on pp. 22 and 23. All the others, in all sections, are taken from HG, if not stated otherwise.

With very few exceptions, all the analyses made in accordance with the two grammars are mine. The exceptions are analyses taken directly from HG, JG and AS. In case of shortcomings, blunders or errors, all the responsibility for them lies exclusively with me.

0. Introduction

Syntax is concerned with the way words combine to form sentences. The sentence is the largest unit of syntax, the word the smallest. Between them there are units of intermediate size. Every unit formed by smaller units is called a *construction* and the units which constructions are made up of are called *constituents*. Words are the only units which are not constructions, and sentences are the only units which are not constituents, provided there is not a larger construction which they are part of. Grammars theorize about different types of constituents/constructions, i.e. different types of *grammatical forms* under which these are classified, in the same way as they theorize about different types of words, i.e. grammatical forms under which words are classified, traditionally called *parts of speech*. Noun, adjective, noun phrase and junction (the counterpart of noun phrase in JG) are examples of constituents. Grammars also theorize about different types of *syntactic functions* that can be assigned to constituents/constructions within the construction they are part of, i.e. the grammatical roles they play in it. Subject, predicate and object are examples of syntactic functions within a sentence.

It is obvious that the analysis of a sentence/construction is affected by the grammar used to analyse it, so grammars not only differ in the number and type of grammatical forms and syntactic functions they recognize, but also in the process of sentence analysis.

1. Parts of speech

Traditional grammar (henceforth TradG) distinguishes the following parts of speech:

- 1 Article: The boss had a chance to get his revenge
- 2 Noun: Tom bought a bottle of sherry
- 3 Adjective: The new captain was very good; I see you still have your umbrella, I have lost mine; this book is old; his cap was new; take what money you can find

- 4 Pronoun: I saw her; I see you still have an umbrella, I have lost mine; this is an old book; his is a new cap; that is what killed him
- 5 Verb: She will perhaps say it is hers
- 6 Adverb: She usually says they are very useful; Jill came tumbling after
- 7 Preposition: A thick carpet of snow lay on the ground; the table is in the room; Jill came tumbling after Jack
- 8 Conjunction: You can have fish and chips or stew; he says that he asked whether it was free; Jill came after we had left
- 9 Interjection: Alas! my best friend has left me; Hurrah! the war is over

The main differences between TradG and JG on this subject are:

- 1) that the articles and the words like *your, this, his, what* etc., presented as adjectives (class 3 above) in TradG, are included in the class of pronoun, a transverse class running as it were across the distinction of nouns, adjectives and adverbs. In Jespersen's view there is

not the slightest reason for thus tearing asunder *my* and *mine* [and the other similar words mentioned above]... and assigning the same form to two different *parts of speech*, especially as it then becomes necessary to establish the same sub-classes of adjectives as are found in pronouns (1924:84).

Also 'the so-called pronominal adverbs *then, there, thence, when, where, whence*, etc., which share some peculiarities of pronouns and are evidently formed from them' (Jespersen 1924:84) are included among pronouns;

- 2) that adverbs, prepositions and conjunctions are grouped under the name of particle, adverbs generally serving to modify or specify some

word or the sentence as a whole, prepositions indicating relations of various kinds and being essentially adverbs governing nouns, and conjunctions being essentially adverbs governing clauses.

The classification of words in JG is, consequently, the following:

- 1 Noun
- 2 Adjective
- 3 Pronoun
- 4 Verb
- 5 Particle: adverb; preposition; coordinating conjunction, serving to connect something which is not a clause with something else: *and, or, nor, but* ...; subordinating conjunction, serving to connect clauses with the main sentence
- 6 Interjection: words capable of forming a sentence by themselves, which is done by the other words only exceptionally: *hello, goodbye, ...*

Some particles can be used in one capacity only, others may be used now as adverbs, now as prepositions, now as conjunctions, others again in two of these capacities:

after : Jill came tumbling after (adv.)
 tumbling after Jack (prep.)
 after we had left (subord. conj.)

but : no one but a fool would do that (prep.)
 not John, but his brother (coord. conj.)
 there is no vice so simple but assumes/ Some mark of
 virtue on his outward parts (subord. conj.)

Huddleston's classification of words differs in several important respects from TradG's and JG's. He distinguishes the following eight parts of speech, illustrated by examples when lack of conformity with TradG's classes makes them necessary:

- 1 Verb
- 2 Noun
- 3 Adjective
- 4 Adverb
- 5 Preposition
- 6 Determinative: The boss has a chance to get his revenge
- 7 Coordinator : You can have fish and chips or stew
- 8 Subordinator : He says that he asked whether it was free

One wonders immediately what has become of the pronoun. In HG, pronouns make up a sub-class of nouns. Words like *the, a, an, my, this* (as modifier), which are included by JG among pronouns and by TradG among articles and adjectives, form a new class called determinative (class 6 above) in HG.

There are very good reasons for establishing this new class. For one thing the exclusion of the 'adjectival' (*my*, etc.) words from pronouns puts the inclusion of pronouns among nouns on firmer ground. Jespersen, who focused on their formal and semantic affinities, leaves them among the pronouns, but is bound to proclaim these latter a transverse class running across the distinction of nouns, adjectives and adverbs.

The most characteristic determinatives are *the, a(n)* and all the words which are mutually exclusive with these: the possessives *my, ...*, the demonstratives *this, ...*, the interrogatives or relatives *which, ...* etc. Then there are words (also treated as determinatives) that can precede the central determinatives – such as *all* or *both* – or follow them – such as *every, many, few*. A noun may be preceded by three determinatives at most, as in the example

all her many virtues

and consequently there are three determinative positions: I (*all*) II (*her*) III (*many*), of which II is the basic position. This is the position of the article and all the words that enter into relations of contrast, not combination, with *this*. A more extensive list of the three sub-classes looks like this:

I *all, both, such, what* (exclamative) ...

II *the; alan; this, these, that, those; my, your ...; we, us, you; some, any, no, either, neither, another; each, enough, much, more, most, less; a few, a little; which, what* (interrogative or relative)

III *many, several, few, little, every, such, ...*

Unlike the adjectives, determinatives are subject to severe limitations governing the order, number and possible combinations within the three positions. Unlike the adjectives, which usually function as modifiers (see p. 25) – i.e. they serve semantically to restrict the denotation of a noun (*dog* denotes the set of all entities to which the term *dog* can be applied; *black dog* applies to a smaller set) – determinatives specify the grammatical categories of *definiteness* (the dog was barking, a dog was barking), *number* (either road, both roads, this hat, these hats) *countability* (a cake, some cake), *quantification* (her many virtues). These facts abundantly justify the creation of a new class for determinatives. In Appendix II are examples of possible combinations of determinatives and other words (numerals, fractions and other quantifiers) or expressions (mainly possessive phrases) which can function as determinatives, with an indication of the three positions (I, II and III) occupied.

Another important difference between HG on the one hand, and TradG/JG on the other, concerns prepositions. In HG, this class includes not only TradG's and JG's prepositions, i.e. the particles governing a noun phrase (e.g. *at, in, on, about, through*, etc.), and the particles which share the double capacity of governing a noun phrase and a clause (e.g. *after, before, since, than, until*), but also nearly all the subordinating conjunctions governing only a clause (e.g. *although, because, whereas, while*). The only subordinating conjunctions which are excluded from the HG preposition class are *that* (*I know that it is possible*), *whether* (*I wonder whether it is possible*), *if*, when equivalent to *whether* (*I wonder if it is possible*), otherwise, in its conditional use, preposition (*I'll be furious if they're late*), *for*, when introducing an infinitival clause (*It's necessary for the water to be boiling*). These four words form the class of subordinator in HG. Many prepositions 'also belong to the adverb class: *down* is a preposition in *I fell down the stairs* but an adverb in *I fell down*' (Huddleston 1988:125). But there is a difference, according to Huddleston, between *down* in the previous sentence and *in* in *They were going in*, because here *in* is a particle 'which occur[s] only in complement function' (1988:121). The

remaining conjunctions, namely the coordinating ones, are then classified under another word class called *coordinator*.

2. Constituents

2.1. Clause-level constituents

In JG the distinction between *sentence* and *clause* is different from that which we find in HG. A clause is a combination of words which is structured like a sentence but is dependent, i.e. it cannot stand by itself because it is only part of a larger sentence. In this sentence there is a part, called *main clause*, which governs, directly or through a connective, another part called *subordinate clause*. A clause, in its ordinary form, contains at least a subject S and a verb in the finite form V. Other terms used by Jespersen are *simple sentence* and *complex sentence*, the second being a sentence containing a clause. The sentences

- 1) The dog barks; Charles took a ticket

are simple sentences and the sentences

- 2) I know that the dog barks; She's afraid when the dog barks
I went home because I had no money left

are complex sentences, where the underlined parts are the subordinate clauses².

In HG, *clause* is the technical name of the class under which sentences are classified. All the sentences in 1) and 2) above are clauses. A *subordinate clause* is one functioning as dependent within a larger construction that is itself a clause or a constituent of one. A *main clause* is one that is not subordinate. A *complex sentence* is one containing a subordinate clause. A *simple sentence* is one that is not complex. The sentences in 1) are accordingly simple sentences and, ad abundantiam, main clauses (but our symbol MCl will be reserved only for main complex sentence). The sentences in 2) are complex sentences but with some differences among them. The first is the only case in which the subordinate clause is introduced by a subordinator (*that*). In the second, the tensed declarative clause (TDC) *the dog barks* is a part of

what Huddleston calls an *adverbial fused relative construction* (1988:159) and in the third, the TDC *I had no money left* is a dependent / complement of the prepositional phrase (PP) *because I had no money left*.

The remaining terms used by Huddleston for sentence/clause classification are: *non-minimal clause*, *superordinate clause* and *compound sentence*:

- a non-minimal clause is one having an element, called by Huddleston a peripheral dependent (Pph-Dep), entering into a construction with another clause (Cl):

I saw her, however (Cl + Pph-Dep)

- a superordinate clause is the next higher clause above a subordinate clause (it may be a MCl but also a subordinate clause in its turn)
- a compound sentence is one containing two or more main Cls through coordination

The difference between a compound and a complex sentence is illustrated by

He's rather lazy but she works very hard	compound sentence
I didn't agree with the guy who said that it was easy	complex sentence

The first contains the main clause *He's rather lazy* and the coordinate main clause *but she works very hard*; the second is a MCl superordinate to the subordinate clause *who said that it was easy*, which is superordinate to the subordinate clause *that it was easy*. But here the terminology about clauses is not exhausted. HG makes the following further distinctions:

- Tensed clauses (having tensed verbal forms, i.e. past tense and present tense forms):
They are ill; [He thinks] she likes him; [I know] who broke it

- Present-participial clauses (PrPcl)
[Those] going by bus [should assemble at 6]; [She enjoys] playing tennis
- Past-participial clauses (PPcl)
[Those] arrested last night [have been released on bail]; [She has] left the country
- To-infinitival clauses (InfCl, having a to-infinitive as verb):
[They want] to be with her
- Bare-infinitival clauses (InfCl, having a bare-infinitive as verb):
[They may] be right
- Main jussive clauses (having the base form as verb):
Be careful! (imperative); The devil take the hindmost
- Subordinate jussive clauses (having the base form as verb):
[It is essential] (that) they be present
- Verbless clauses (VbsCl):
[He stood with] his hands behind his back
[Although] very upset, [she performed remarkably well]

From what precedes we can see that in HG, unlike JG, the term 'clause' is extensively applied even to expressions lacking a subject and a finite verb. Tensed and jussives form the class called *finite* clause, while infinitivals and participials form the class called *non-finite*. There are then four types of clause:

- | | |
|------------------------|--|
| - declarative clause | You are generous |
| - imperative clause | Be generous! |
| - interrogative clause | Are you generous?; Which version would you prefer? |
| - exclamative clause | How generous you are! |

Finite subordinate clauses fall into three major classes:

- Relative [I found the book] (that)/which he had recommended

- Comparative	[She is more talented than] he is	
- Content	They said] (that) you had done it	declarative
	[It is essential] (that) they be present	jussive
	[I wonder] what he wants	interrogative
	[I remember] what a struggle it was	exclamative

In HG, priority is given to the description of a basic kind of clause called *kernel clause*. The other clauses may be described derivatively. For the definition of kernel clause see Huddleston (1988:11 ff.).

2.2 Intermediate-level constituents

What are the intermediate size constituents in JG and HG?

In JG such constituents are basically two: *junction* and *nexus*. A junction is a linguistic structure where it is possible to distinguish different hierarchical levels. Jespersen calls these different levels *ranks* and introduces the special terms of *primary*, *secondary* and *tertiary* for the first three ranks, which are much more important than the others. In the junction

a furiously (3) barking (2) dog (1)

the numerals 3, 2, 1 characterize the tertiary, the secondary and the primary, respectively, and the parallelism between the series tertiary-secondary-primary and the series adverb-adjective-noun is worth noticing. The only word which does not determine another, which is not subordinate to any other one is *dog*. It is natural to say that *dog* is primary. The word *barking*, which specifies (determines, defines, modifies, is subordinate to) *dog* consequently is secondary, and finally *furiously*, which specifies (etc.) *barking*, is tertiary. There may be a greater number of ranks, as for instance in the junction

a not (5) particularly (4) well (3) constructed (2) plot (1)

but just because the series noun-adjective-adverb is not further extendable, there being no part of speech which bears the same relation to an adverb as this does to an adjective, Jespersen grounds his grammar on only three ranks. The primary is typical of nouns, the secondary is typical of adjectives and the tertiary is typical of adverbs, but this

correspondence is altered in a great variety of cases (see Di Giorgi 1994:1).

Having thus introduced the three ranks, Jespersen immediately generalizes them to the case of nexus, an expression ordinarily containing a subject and either a verb or a predicative or both, and so in

The dog barked furiously SV3

identifies *the dog* as primary, *barked* as secondary and *furiously* as tertiary in perfect accordance with the junction. If we ask "What is talked about here?" we will no doubt answer "one thing, the dog". Thus the dog is primary, the subject of a nexus is primary. The verb *barked* is subordinate to *the dog* and thus secondary – in the sense that this verb is selected by or matches *the dog* or that, as Jespersen says,

[if] a subject and an object (direct or indirect) are termed primaries and thus compared with and coordinated with primaries in a junction, it is because they denote comparatively definite and special notions, whereas the notion expressed by a verb is less "substantial" and therefore in comparison with S,O,[O_i] must be called secondary (1937:124).

Finally, *furiously* is subordinate to *barked*, so tertiary. In the sentence

The rose is red SVP

the predicative *red* is secondary, exactly as in *the red (2) rose (1)*. In the nexus

John gave Mary a kiss SVOⁱO

the answer to the question "What is talked about here?" is "three things: John, Mary and the kiss". Therefore these words of our sentence are primaries. More generally, the subject, the object and the indirect object in a nexus are always primaries. The verb, which is an element of connection between them, is secondary. If there were more words in the sentence, they would be likely to take tertiary rank in the same sense as in the junction. Thus:

John gave Mary a kiss in a hurry SVOⁱO3(p1)

What is the essential difference between a junction and a nexus?

A junction is a structure that serves to make what we are talking about more definite and precise and the thing so defined is unique. It cannot stand by itself but requires a continuation. Thus, as I remarked earlier, the JG junction is the counterpart of the HG noun phrase.

A nexus tells us something by placing two definite ideas in relation to one another through the presence of S (primary) and either V or P (secondary) or both. It may stand by itself and form a complete sentence. But this is not its characteristic feature, because we can have a nexus which is a subordinate member of a sentence (*dependent nexus*). Cases of dependent nexus are:

- a) the subordinate clauses
I see that the door is red (... 3:SVP)
- b) the collocation of a subject and a predicative SP
He makes her happy (... SP); with the window open (... SP)
- c) the collocation of a subject and an infinitive SI
I hear the dog bark (... Sp°I)
- d) the following combinations
the doctor's arrival S²X; the doctor's coming S²G
everything considered SY

From what precedes we can see that a nexus may be an intermediate size constituent but is also a technical term under whose definition falls every whole ordinary sentence or clause and in this sense is similar to, but not identical with, the Huddleston term 'clause'.

Naturally the distinction of rank applies not only to single words but also to word-groups and clauses. It follows that the assignment of rank depends upon the set of which the word or the word-group is a part. So the sentence

A furiously barking dog prevented the visitors from coming in
may be split up into the four segments

A furiously barking dog (primary)	S(321)
prevented (secondary)	V

the visitors (primary, direct object)	O
from coming in (primary, prepositional object)	pO ₁ (G3)

but inside these segments is present a deeper second layer in which *furiously* is tertiary, *barking* is secondary and *in* is tertiary.

Another intermediate size constituent recognized in JG is the *prepositional group*, the combination of a preposition and the words it governs (its regimen, as Jespersen says; or its complement, as Huddleston says; or its object, as it is often called). There is some variety and vacillation in the symbolization of a prepositional group. The regimen may be an ordinary noun or junction and in such cases the symbol used for it is 1 or 1 () :

in the house p1; in the old little house p1(221) or simply p221

In some special cases the regimen may be an adjective or a noun represented by the symbols 2 or P :

far from ripe 3p2	The apple is far from ripe SVP(3p2)
as very competent p3P	We regarded her as very competent SVO(S ₁ p3P)
to normal pP	Her temperature had dropped to normal S(21)VpP
from men to swine pPpP ₁	They were changed from men to swine SV ^b pPpP ₁ ³
as a saint pP	He lived as a saint SVpP

The regimen may be the subject or object of a nexus-substantive X, an adjective Y equivalent to a participle and an adverb (no example in AS):

the massacre of Christians by Chinese	XpOpS
oblivious of everything	YpO; eager for recognition YpO
independently of such considerations	3pO(21)

The regimen may be a gerund G, an infinitive I, an infinitival nexus, a simple nexus (or in Huddleston's terminology, a verbless clause VbsCl), a prepositional group, an interrogative or relative clause:

This is past believing	SVP(pG)
He resigned after reading the report	SVp1(GO)

He was about to retire	SVP(p1)
We depend on you to come	SVpO(S ₁ I)
I slept with the windows open	SVp1(S ₁ P)
She stood with her back to the door	SVp1(S ₁ (21)P(p1))
He emerged from behind the bush	SVppO
It depends on whether we can afford it	SVpO(3 ^c S ₁ VO ₁ ?)
It depends on what he did	SVpO(O ₁ ?S ₁ V)
He laughed at what she said	SVpO(O ^c S ₁ V)

The prepositional group as a whole may be used as primary (S, O of transitive verbs, prepositional object pO of transitive or intransitive verbs), as junction-secondary (2) or nexus-secondary (P) and as nexus-tertiary (with 3 not necessarily expressly indicated):

From nine to twelve is three long hours	S(p1p1) VP(2 ^a 21)
In the box would be the best place	S(p1) VP(21)
You have till ten tonight	SVO(p13)
Everybody laughed at Jim	SVpO
He put it in the box	SVOpO ₁
You got to grips with the basic trouble	SVpOpO ₁ (21)
The faces of girls; secretary to the premier; woman with child	
12(p1)	
a man in the front row	12(p1(21)); the King of England's castles
1(12(p1)) ² 1	
The war is at an end	SVP(p1); She looked out of health
SVP(pp1)	
We couldn't see for the mist	SV ⁿ 3(p1) or simply SV ⁿ p1
I did it in the morning	SVO3(p1)/p1
The child is big for a three-year-old	SVP(23(p1(2 ^a (2 ^a 1)1)))
In my view it was a mistake ⁴	[p1(21)§] SVP

The intermediate size constituents in HG are called phrases and, for the most part, their classification is derived from that of words. A phrase is formed by a word which is its major element and is called *head* and by other words which are hierarchically lower elements and are called *dependents*. In the first instance they are introduced as a two-level structure, i.e. as a structure in which the higher level is occupied by the head (the underlined word of the examples) and all the other words are, singularly or in a group, on the same level and in a hierarchical relation

with the head and not with one another. The classification of phrases is illustrated (Huddleston 1988:25,34) as follows:

	Phrase	Head
i [Tom] <u>used</u> the wrong method	VP	V
ii Several new <u>cracks</u> [had appeared in the wall]	NP	N
iii [They were] <u>kind</u> to her	AdjP	Adj
iv [She spoke] too <u>slowly</u>	AdvP	Adv
v [They presented her] <u>with</u> a magnificent bouquet	PP	Prep
vi [He had] very <u>little</u> [patience]	DetveP	Detve
vii The King of Spain's <u>s</u> [daughter]	PossP	's

From this list we can see that, under the concept of dependence on the head in a phrase, many different hierarchical relations are unified. These relations are, using Jespersen's symbols, respectively, i (O), ii (2), iii (pO of an adjective Y), iv (4), v (O of pO), vi (3), vii (1²). Other relations will be seen later (p. 23 ff.).

The presentation of phrases as a two-level structure, head + dependents, is only a first approximation. The dependents, and also the heads, may be phrases in their turn and so there may be hierarchical relations between the dependents in a phrase, and consequently a phrase becomes a structure with more than two levels. Consider the difference between

0	NP :	a big mistake
1	NP=221	NP = Dep : DetveP + Dep : AdjP + Head : NP
		a big mistake

and

0	NP :	a very big mistake
1	NP=221	NP = Dep : DetveP + Dep : AdjP + Head : NP
		very big
2	AdjP = 21	AdjP=Dep:AdvP+Head:AdjP
		a very big mistake

The number 0 indicates the horizontal line containing the structure NP which is to be analysed. The numbers 1, 2, etc. indicate the successive

horizontal lines or layers required for further analysis. In the first case, the notation 1 NP=221 indicates that the NP has one line or layer formed by three constituents, the first two at level 2 (dependents) and the third at level 1 (head). In the second case, the second constituent is a dependent-level AdjP which requires going down another step along the vertical, a second line or layer 2 AdjP=21, in order to reach the final string of words in it.

In JG this NP would be analysed as the junction

a very big mistake 321

i.e. as a one-layer constituent containing three ranks. This is because Jespersen's formalism ignores the article. If the article were described, Jespersen would be likely to have written the formula

a very big mistake 21(321)

where the presence of the brackets () points out a second layer as in Huddleston's analysis, but this layer is not filled by the constituent *very big*, i.e. an AdjP, which is not provided for by JG, but is the junction (321). A translation pure and simple of the Huddleston analysis into a Jespersen formula would result in

a very big mistake 22(32)1

but this formula would be inconsistent with JG because it brings to the surface the form (32) which is non-existent in it.

The case of NP

a federal government inquiry 2 2 (21) 1

forces Huddleston (1988:95) to introduce a new kind of NP, a NP without determinatives, which will be denoted by NP', to describe the constituent *federal government*, unable to occupy such prototypical NP positions as subject and object, the sentences **Federal government has instituted an inquiry*, **She criticised federal government* being ungrammatical. One possible analysis is

0 NP : a federal government inquiry

1 NP=221 NP=Dep : Detve + Dep : NP' + Head : NP
federal government
2 NP'=21 NP'=Dep:AdjP + Head : NP
a federal government inquiry

An alternative analysis suggested by Huddleston would be to consider every NP as formed by Dep:Detve+Head:NP' and then to analyse NP' in the usual way :

0 NP : a federal government inquiry
1 NP=21 NP=Dep : Detve + Head : NP'
federal government inquiry
2 NP'=21 NP'=Dep : NP' + Head : NP'
federal government
3 NP'=21 NP'=Dep : AdjP + Head : NP'
a federal government inquiry

The Jespersen formula for such an analysis would be

a federal government inquiry 21(2(21)1)

where there are two pairs of (), one inside the other, in accordance with the three layers of Huddleston's analysis.

All the other constituents are single words. In HG the single words are particular cases of phrases reduced to their heads, and consequently a noun can be indicated indiscriminately by N or NP, a verb by V or VP, an adjective by Adj or AdjP, an adverb by Adv or AdvP and so forth. In JG special symbols are used to indicate constituents having particular grammatical meanings: V (finite verb, also for combinations such as *has taken*, *will take*, *is taking*, *can take*, etc.), I (to-infinitive), G (gerund), X (nexus-substantive), Y (present or past participle, agent-noun, special adjectives), v (auxiliary verb, when necessary), 3/s (existential *there*), & (coordinating conjunction), 3^c (subordinating conjunction), s or o or oⁱ (for *it* used in extraposition). There are other symbols which do not represent constituents but give additional information. For instance, the signs !, !!, ? and ! denote the imperative, the main jussive, the interrogative and the exclamative clauses, respectively, of the system of clause types in HG.

3. Syntactic functions

JG recognizes the following syntactic functions within a sentence:

S	subject
O	direct object
O ⁱ	indirect object
P	predicative

S, O and P are extended to constituents smaller than sentences, namely junctions, nexuses and prepositional groups, where the governing /governed element is not a V but may be an X or Y, I, G, an adjective and p:

The love of God (God loves),	XpS
Everything considered	SY
A young student of geometry	2YpO
I hear the dog bark	... Sp ^o I
The doctor's coming	S ² G
A chance of some wine being left	Xp1(S ₁ (2 ^o 1)G ^b)
He makes her happy	... SP
With the windows open	pSP
His plan to go to France	S ² XO(IpO _i)
He is able to sing	SVP(2O(I))
The ring is worth 5 pounds	SVP(2O(2 ^o 1))
He emerged from behind the bush	SVppO

The term O in JG becomes nearly a synonym of Comp (Complement) in HG but not exactly so because, for instance, in the latter the Jespersen S and P are also Comps.

There are then the syntactic functions expressed by the ranks 1, 2 and 3 (primary, secondary and tertiary). Within a junction these functions are those implied in the definitions already given for the ranks of a junction. Within a sentence or, more technically, a nexus, the primary or primaries are indicated by the more specific symbols of syntactic functions S, O, Oⁱ, pO, pOⁱ, the secondary or secondaries by the more specific symbol P (but in some special cases P may be primary, see p. 39 ff.) and by the symbols of constituents V, I, Y, G and the tertiary or tertiaries by the numerals 3 followed by their description or simply by their description. In Jespersen's formalism the numerals 1,

2, 3, which typically express ranks, i.e. syntactic functions, are also extensively used to express the constituents N, Adj, Adv and, vice versa, symbols of constituents like V, I, ... p1 are also representative of the ranks implied for them by Jespersen's theory. All this results in a great simplification of formulas without any loss of accuracy in the analysis (see p. 29 ff.). Let me illustrate these points with examples in which the usual formulas are followed by alternative formulas which are more explicative:

Everybody laughed at Jim SVpO/1(S(1))2(V)1(pO)
 She travelled with her father SVp1(21)/SV3(p1(21))/1(S(1))2(V)3(p1(21))

In HG, for the sake of symmetry, there is a biunique correspondence between constituents and syntactic functions. For every possible constituent within every possible construction there are terms which specify its syntactic function. So the function of the verb in a VP is called Predicator (P), the function of the determinative in a NP is called Determiner (Detnr). The two associated categories are expressed by symbols separated by the sign ':'. The NP *a mistake* is represented by

0	NP	:	a	mistake
1	NP=21	NP=Detnr	:	DetveP + Head : NP
			a	mistake

where the more specific term of Detnr is used instead of Dep for the syntactic function of the indefinite article *a*.

What are the syntactic functions in HG?

- Within a clause: the head-based concept of phrase, which allows for a phrase to have another phrase, rather than a word, as its Head or as a Dep is extended to the (kernel) clause, which is a special phrase where S is regarded as Dep and Pred as Head:

$$\text{Cl} = 21 \quad : \quad \text{Cl} = \text{Dep/S} : \quad + \quad \text{Head/Pred} : \text{VP}$$

There are two reasons for this choice: the Pred or the VP which fills it determines the properties of Cl as a whole (TDC, PrPCL, PPCI, InfCl); the possibility of having a Cl rather than a NP as S depends on P:V or on PC in VP: *That Kim was guilty surprised/*used us all, That Kim was*

*guilty was obvious/*weak*. In the case of a non-minimal Cl (see p. 12) the Head is filled by a Cl and Dep = Pph-Dep (a special case of Ajn):

0	Cl	:	I saw her, however
1	Cl=12	Cl = Head : Cl + Dep/Pph-Dep :	AdvP
		I saw her	however

- Within VP: the head (V) of a VP is more specifically predicator (P). The dependents are of two main kinds: *complements* (Comp) and *adjuncts* (Ajn). In the sentence

Your father washed the car again SPComp Ajn;S(21)VO3

the car is a Comp (more specifically an object O or still more specifically a direct object O^d) while *again* is an Ajn. The distinction between them is based on omissibility (Ajn always omissible, Comp obligatory or omissible), on the fact that an omissible Comp, unlike an Ajn, is selected by the verb while an Ajn may be compatible with any verb, and that the most central Comps are NPs or AdjPs while the most central Ajns are AdvPs. The term Comp is used also for S in Cl (Comp of Pred) and in a large number of other cases. The two most central Comps are O/O^d and the Predicative (PC) or 'subjective' predicative (PC^s):

Her son shot the intruder SPO^d;S(21)VO
Her son was brilliant/a genius SPPC^s;S(21)VP

Another Comp is the 'objective predicative' (PC^o):

Everyone considered Pat an impostor SPO^dPC^o;SVO(S₁P)

A second double-complement construction is

The woman gave Kim the money SPOⁱO^d;SVOⁱO

where *Kim* is the indirect object Oⁱ. With this is associated its equivalent with the prepositions *to* and *for*

Tom lent the binoculars to Kim
SPO^d PrepOⁱ;SVOpOⁱ

Tom bought some binoculars for Kim

There are then the Comps of prepositional verbs:

Many people referred to her article SP PrepComp; S(21)VpO(21)

They charged him with perjury SPO^d PrepComp; SVOpO₁

That counts as wrong SP PrepPC^s; SVP(p2)

They took him for dead SPO^dPrepPC^o; SVO(S₁pP)

On the basis of the criteria already given the following are Comps and not Ajns:

[My driving licence is] in the car	Place Comp
[Ed went] into the garage	Direction Comp
[The meeting is] at 5 o' clock	Time Comp

For the same reasons the particles are Comps in

Kim came to	SPComp
He turned the light off	SPO ^d Comp

In Huddleston's view the following are not O/O^d but Comps of catenative verbs

[She wants] to leave the country	CatC
[She must] leave the country	CatC
[She kept] leaving the country	CatC
[She has] left the country	CatC

Another more specific term for Ajn is Modifier (Mod), a function which is defined within the NP and used also within VP and other phrases. Thus within a VP we have, in order of specificity, the three series of syntactic functions Head/P, Dep/Comp : O^d, PC^s, ..., CatC and Dep/Ajn : Mod.

- Within NP we have the Head (N) and Deps. The dependents are of two kinds: pre-head Dep and post-head Dep. The pre-head

dependents are: Detnr and Mod; the post-head dependents are: Comp, Mod and Pph-Dep. The distinction between Comp and Mod is made on the same basis as that between Comp and Mod in VP. Pph-Dep, unlike Mod, is always semantically non-restrictive:

i	[the author] of this novel	Comp
ii	[a man] of honour	Mod
iii	[the letter] which Kim had written	Mod
iv	[the letter], which Kim had written	Pph-Dep

In i *of this novel* is Comp because the preposition *of* is selected by *the author*, which belongs to a class of nouns capable of determining the prepositions which follow them. Other examples are: *her reliance on the premier*, *her eagerness for recognition*. In Jespersen's terminology these nouns are Xs, which can take a subject or object or both. So in the previous examples *her* is Detnr for Huddleston and S, more precisely S², for Jespersen. In ii *of honour* is Mod because it is one of many other possible PPs (*with a beard*, *in the sitting room*, etc.). Thus the syntactic functions within NP are: Head, Dep/Detnr, Dep/Comp, Dep/Mod and Dep/Pph-Dep.

- Within AdjP, AdvP, PP, DetveP and PossP the syntactic functions are those which we have already met - namely, Head, Comp, Mod and Detnr.

All these terms may be applied to all the grammatical forms recognized in HG, from clauses and phrases to words.

Then there are three functions which appear when Huddleston deals with nominalisation, adjectivalisation and adverbialisation (1988:103, 111,123). In principle, they coincide with the Jespersen ranks, although they are not explicitly defined as syntactic functions. The first can be assigned to a constituent different from a NP but functioning as a NP (therefore forms are also functions!), i.e. filling subject or object positions prototypically filled by a NP and also predicative positions:

[There are many items on the agenda]: the most important of them
[concerns the rule changes]
The strong [should help] the very weak
That he is indeed guilty [is now evident to everyone]
(For John) to give up now [would be disastrous]

(Her) being a solicitor [matters very much]	
[I knew] that he was ill	(1988:63)
[The problem is] that we can't really afford it	"
[The only solution is] to resign	"
[The first mistake was] inviting the boss	"
[He considers it monstrously unfair] that Liz got the job	"
[This made it a waste of time] to accompany them	"
[She considered] attempting it [a waste of time]	"

Nominalisation is expressly excluded by Huddleston in the case of CatC which we examined earlier.

The second function can be given to

- NPs functioning as Mod of a NP, which prototypically is an AdjP

[a] boy [actor]; student [grants]; [the] Reagan [administration]

- PPs functioning as Mod of a NP:

[a man] of honour; [a boy] with blue eyes

- subordinate relative Cls or non-finite Cls functioning as Mod to a NP:

[The man] who got the other job [had no qualifications at all]
[the first person] to arrive; [anyone] considering such behaviour
acceptable [must be mad]

The third can be assigned to

- PPs equivalent to AdvPs and functioning as Mod in a VP:
[She listened to him] with a lot of patience
- PPs functioning as Mod in a VP
[He didn't go] because/since it was raining
- InfCls functioning as Mod in a VP
[He left at nine] to catch the last bus
- finite content Cls functioning as Mod in an AdjP:
[I was so broke] that I couldn't join them

4. *The process of sentence analysis*

The analysis of a sentence is implemented by means of a step-by-step process of division of the sentence into the constituents whose existence is recognized by the particular grammar adopted. The final result of the analysis is the constituent structure of the sentence.

In HG the process is regulated by the identification of the constituents in decreasing order of size and of their syntactic functions within the construction they belong to. The first division usually separates what fills S and Pred positions, and the last division separates all the single words still aggregated in intermediate constituents. Every division gives rise to a layer in the structure which is in a hierarchical relation with the higher layer. The topmost layer is occupied by the sentence, the lowest consists of the individual words themselves. The constituents of each layer are in a hierarchical relation with one another. Therefore the constituent structure has two hierarchical dimensions: that between layers, which are distributed along the vertical, and that between the constituents within each layer, which are distributed along the horizontal filled by the layer. All this can be arranged as follows:

0	Cl	:	The boss made a bad mistake
1	Cl=21	Cl=NP:S+	VP: Pred
		the boss	made a bad mistake
2	NP=21 VP=12	NP=Detnr:Detve+Head:NP	VP=VP:P + O:NP
		a bad mistake	
3	NP=221	NP=Detnr:Detve+Mod:AdjP+	Head:NP
		The boss made a bad mistake	

The sentence belongs to the class of Cl. The hierarchical relation between constituents are indicated after the number of the layer. The following is a more complex example:

0	MCl	:	the doctor had known her father was running a great risk
1	MCl=21	MCl=NP : S +	VP:Pred
		The doctor had known her father was running a great risk	
2	NP=21 VP=12	NP=Detnr : Detve+Head:NP	VP=VP:P + CatC:PPCl
		The doctor had known her father was running a great risk	

3	PPCl=12	PPCl=VP:P+	O ^d :Cl
		known her father was running a great risk	
4	Cl=21	S:NP+	VP:Pred
		her father was running a great risk	
5	NP=21 VP=12	NP=Detnr:Detve+Head:NP	VP=VP:P + CatC:PrPCl
		her father was running a great risk	
6	PrPCl=12	PrPCl=VP:P+	NP:O ^d
		running a great risk	
7	NP=221	NP=Detnr:Detve+Mod:AdjP+Head:NP	
		a great risk	

The clause is a main complex Cl which contains a subordinate past-participial which is a Comp to a catenative and is superordinate to a finite Cl. A simpler analysis would be to consider *had known* and *was running* as units forming the P of Pred:

2	VP=12	VP = VP : P +	O ^d : Cl
		had known her father was running a great risk	
3	Cl = 21	Cl=NP:S +	VP : Pred
		her father was running a great risk	
4	NP=21 VP=12	VP = VP:P +	O ^d : NP
		was running a great risk	

and so forth.

Before treating the process of analysis in JG it is advisable to insert some considerations that explain the true nature of Jespersen's algorithm.

Jespersen was aware that 'as the purport of the system is to provide *general syntactic symbols*, it follows that *forms* as such have no place in the system' (1937:94). But for a number of reasons he had to introduce many forms without which 'our analysis would have been incomplete and really futile' (Jespersen 1937:95).

criteria. The process terminates when all the words, except articles, are examined and the result is a formula which describes the grammatical construction exhaustively and in detail. The opening and closing of a pair of brackets usually brings out a deeper layer in the structure, but there are cases in which brackets are merely explicative of what precedes. For instance in the junction

The life to come 1 2 (I)

there is only one layer and the brackets qualify the grammatical form of the secondary as an infinitive. So in the sentence

They arrived home late SV33/SV3(33)

the brackets of the second alternative isolate the nexus-tertiary, but their contents are not a deeper constituent, i.e. a new nexus or junction, and the two adverbs *home* 3 and *late* 3 cross the brackets to modify separately their secondary *arrived*V.

The two sentences already analysed according to Huddleston may be interpreted by means of JG with the formulas

The boss made a bad mistake SVO(21)
 The doctor had known her father was running a great risk
 SVO(S₁(21)VO₁(21))

where in the first there are only two layers instead of three, because the splitting up into S and Pred is ignored by Jespersen, and the nexus (Cl), usually, is a three-level unit at most (in this case a two-level unit 1(S)2(V)1(O) with two primaries and one secondary) and in the second there are three layers instead of five (2nd analysis) for the same reason. Another difference is that the hierarchical relation between S and Pred is 21 in HG because in Cl structure S is Dep and VP is Head (in other words, the highest level is occupied by the verb in the constituent structure) while in JG the relation between S and V is inverted into 12 as a consequence of the different underlying theory. In my view, what really matters is not which comes first in the hierarchy, S (or O) or V, since this is determined by the theory adopted. What is important is that a direct hierarchical relation between them is asserted, whatever it is, and this is done by both Huddleston and Jespersen.

5. Comparative analyses

In HG the complex-transitive Cl is illustrated by the example

Everyone considered Pat an impostor SPO^dPC^o

and as to the relation between *an impostor* and *Pat* it is said that it 'matches that holding between them in the copulative (single-complement) construction *Pat was an impostor*' (1988:56). But HG does not recognize the existence of the constituent (VbsCl) *Pat an impostor*, which is a simple nexus in JG. In Huddleston (1988:170) we find: 'Note, for example, that we have not postulated verbless clauses in *That counts as wrong, I regard it as very important* or *She considered them useless*'. If we apply the constituent structure analysis to the sentence, we obtain:

0 Cl : Everyone considered Pat an impostor
 1 Cl=21 Cl = S : NP + Pred : VP
 considered Pat an impostor
 2 NP=1;VP=122 VP=P : VP + Comp/O^d : NP + Comp/PC^o : NP
 Everyone considered Pat an impostor

In this analysis there appears to be a direct hierarchical relation of the kind Head(P) + Dep(Comp/PC^o) between *considered* and an *impostor*, which does not exist in the English sentence, because *an impostor* is in a direct hierarchical relation only with *Pat*. The only way to rectify this incongruity is to postulate a VbsCl for *Pat an impostor* and to assume it as the only Comp/O^d of P. This second analysis is reflected by the Jespersen formula

Everyone considered Pat an impostor SVO(S₁P)

The Huddleston analysis of the sentences

My driving licence is in the car SPComp
 The meeting is at 5 o'clock "

is such that the PPs *in the car* and *at 5 o'clock* are Comp and not Ajn/Mod, thanks to their non-omissibility. In Jespersen's view the typical Comp of the verb *be* is P, which is usually secondary to S, when *be* is something with no rank which expresses no adequate thought in itself or, in Huddleston's words

can hardly be said to have any independent meaning: it serves syntactically to carry the tense inflection that is required in kernel clauses. The main semantic content of the predicate lies in the complement – hence the term 'predicative' complement. The *be* serves as what is called a *copula*, i.e. a 'link' between the complement and the subject (1988:55).

But this is not the case of *be* in the above sentences. Here *be* is an intransitive verb (*be* is prototypically intransitive when not followed by a P) having a meaning of its own and similar to any other intransitive verb like, for instance, *sleep* and *arrive*. In the first sentence the meaning of *is* can be exemplified by *exists*, *is found*, *can be found* and in the second by *occurs*, *comes about*, *takes place*. But if this is true, the PPs following *is* are perfectly omissible and therefore adjuncts (modifiers) in the same way as in

We sleep in the car SP Mod
We arrive at 5 o'clock SP Mod

This is in agreement with what Jespersen writes in MEG (III 1927:394):

Adverbs and prepositional groups..., which generally are subjuncts [Ajn, tertiaries], may also be used as predicatives. It is sometimes difficult to know whether such a word or group is to be termed a subjunct or a predicative, though the general rule may be stated in this way: when the verb has a full meaning without the addition, we have a subjunct, e.g. *well* and *out of tune* in "she sings well" and "she sings out of tune", but the same words are predicatives in "she is (or, seems) well" and "the piano is (or, seems) out of tune". In the former combination we have subjuncts which describe the way in which she sings; in the latter we have predicatives which are connected with the subject so as to become the necessary secondary part of the nexus... *He is in perfect health (at ease)* corresponds to

the question "What is he?" (*what* neuter predicative) but *he is in Rome (at home)* to the question "Where is he?".

The formulas for the two sentences which summarize all this are:

My driving licence is in the car S(221)Vp1/3(p1)
The meeting is at 5 o'clock SVp1(12 (p1))/3 (p1(12(p1)))

In the sentence

Kim came to SP Comp ; SV3

again the criterion of non-omissibility leads Huddleston to interpret the particle *to* as a Comp, which is prototypically an O (direct object) or pO (oblique object), but here the verb *came*, without *to*, is something which is devoid of any semantic content and as such cannot be complemented in any way. For Jespersen *to* is a tertiary, not different from an adverb, which is prototypically an Ajn for Huddleston. But, if interpreted as such, it does not seem to qualify as a modifier because a meaning which does not exist cannot be restricted; but it might still be considered a word which occupies the secondary position V and is a fragment of it, having the function of giving the meaning to the whole *came to*. As such, it could be called a *signifier* (Sig/V_s) and the formula would become SVV_s. It is such a Sig that makes complementation possible:

He turned the light off SPO^d Sig ; SVOV_s
I can't put up with your rudeness SPSigPrepO; SVV_spO(21)

The introduction of Sig would allow us to distinguish the previous sentence with *came* from

Ed jumped off SPMOD ; SV3

where *jumped* is not an empty verb and *off*, consequently, is a Mod, and not a Comp, being omissible and not necessarily selected by *jumped*.

A Comp of a verb of movement may be regarded as an oblique object:

He walked to/from/within/towards the cemetery SPPrepComp; SVpO

Both can become subjects through passivisation:

The article was referred to
 The cemetery was walked towards

S*V^bp*

The Comps of catenatives, which 'bear too tenuous a functional resemblance to NP or AdjP complements to warrant analysis as objects or predicatives' (Huddleston 1988:63), are very normal cases of nominalisation for Jespersen and as such treated as O or P:

She wants to leave the country SPCatC ; SVO(IO₁)
 She kept leaving the country " ; SVO(GO₁)
 She wants to try to persuade them to stop drinking so much
 SP CatC CatC O^d CatC CatC Mod ; SVO(IO₁(IO₂(S₁IO₃(G43))))
 She persuaded him to change his mind SPO^d CatC; SVO(S₁IO₁(21))
 She prevailed upon him to change his mind
 SPPrepCompCatC;SVpO(S₁IO₁(21))

Unlike Huddleston, Jespersen considers *him to change* as a unit formed by an infinitive and its subject, namely an infinitival nexus consisting of a primary plus an infinitive, and takes it as the direct object of the verb *persuaded* (a construction generally termed the *accusative with infinitive*). Such a nexus may also be the object of a verb through a preposition (*prevailed upon*).

The treatment of the ing-form of a verb such as *taking, walking, shutting* is different in HG (1988:114, 105) and JG. This form may be head of three different constituents in HG:

[Those] going by bus [should assemble at 6] PrPcl/VP
 [It was a very] entertaining [evening] AdjP
 The sacking of the secretary [was a mistake] NP

Only in the first case is the ing-form called a present participle, when it preserves the character of verb. When it is involved in processes of adjectivalisation or nominalisation, such as those illustrated above, it is called a deverbal adjective or noun. In JG the main distinction is between 1) the present participle, functioning as a verbal adjective,

which is symbolized by Y, and 2) the gerund, functioning as a verbal noun, which is symbolized by G.

Those going by bus should assemble at 6
 S:NP=Head + Mod : PrPcl PCatC:InfCl=P+ Mod; S(12(Yp1)Vp1)

It was a very entertaining evening
 SP PC:NP = Detnr + Mod : AdjP + Head ; SVP(3Y1)

The sacking of the secretary was a mistake
 S : NP = Detnr + Head + Comp PPC; S(GpO) VP

Discovering us, he shouted Pph-DepCl ; [YO] SV

He ended up changing his mind SP Comp CatC ; S*V3[Y*O (S²1)]

The participial *Discovering us* is analysed as Pph-Dep in clause structure (1988:169) by Huddleston, and so its dependence on the subject is lost; Jespersen treats it as an apposition of the subject. The latter differentiates *changing his mind* in the last sentence, where the ing-form is a Y, from *leaving the country* in *She kept leaving the country* SVO(GO), where it is a G, while both are CatCs for Huddleston (1988:63,64).

The function of Ajn(Mod) in a clause structure/VP, filled by PP or InfCl or something else, is a tertiary for Jespersen, in accordance with Huddleston's adverbialisation illustrated above:

He didn't go because/since it was raining SP Mod:PP ; SVⁿ3(3^cS₁V)

He left at nine to catch the last bus
 SP Mod Mod:InfCl; SVp13(IO(21))

I'll leave it where you put it SPO^dMod: FrCl; SVO3(3^cS₁VO)

The symbol O may be extended to the Comps of adjectives (Huddleston 1988:110) without necessarily using Y instead of 2 for the adjectives (see p. 17).

Kim is fond of animals
 SPPC^s : AdjP = Head + Comp; SVP(YpO)/P(2pO)

I was sure that it was mine
 SPPC^s:AdjP=Head+Comp; SVP(2O(3^cS₁VP)/simplyP(23^cS₁VP))
 They were eager to meet her
 SPPC^s:AdjP=Head+Comp; SVP(2O(IO,₁))

I shall be careful what I do SVPO(O₂SV) (1937:139)

Also the function of Mod in AdjP (1988:111) is a tertiary and its belonging to the adjective instead of to the nexus may be indicated by an appropriate use of parentheses:

It was remarkably/so/too/very big
 SP PC^s : AdjP = Mod + Head ; SVP(32)

He is thinner/more helpful/than he used to be
 SP PC^s : Adj P=Head + Mod : PP ; SVP(23(3^cSV))

I was so tired that I fell asleep
 SPPC^s : AdjP = Mod + Head + Mod : Cl; SVP(323(3^cSVP))
 /P(32)3(3^cSVP)

They are too young to go on their own
 SPPC^s : AdjP = Mod + Head + Mod : InfCl ; SVP (32Ip1(21))

One could say that the first formula is inconsistent with JG, but it is not. When V is a copula, V has no rank and the whole sentence becomes a verbless nexus. P may be interpreted in two ways: 1) P, when followed by a pair of brackets, loses any functional value of nexus-secondary, and what is inside the brackets assumes a functional value in the verbless nexus; when standing on its own, maintains the value of nexus-secondary; 2) P is always the secondary of a verbless nexus and what is inside the brackets describes the form or forms (not connected with one another in any constituent) which fill it. It is in this second sense that Jespersen interpreted P in the sentence *The rain is over* SVP(3). By using the first and the second sense, the above sentence becomes

It was very big SVP(32)=It very big S32/S2(Adv Adj)

When P is primary the two signs together, VP, may be replaced by '='; the nexus becomes an identity and the two members are interchangeable:

The only solution is more frequent patrols/More frequent patrols are the only solution (21)=(321)/(321)=(21)

Certainly different is the case of the sentence *Seeing is believing* SVP. Here *is* is not a copula but carries a meaning (for instance the meaning *is one of the ways in which you may get to [believe]*), the sentence is not an identity and the two members are not interchangeable.

The function of Mod in NP (1988:93) filled by a relative clause or InfCl or PrPcl or PPcl, is a junction-secondary, in agreement with Huddleston's adjectivalisation. When the relative clause is non-restrictive, its function of Pph-Dep may be expressed by the brackets used for appositions:

The letter which Kim had written was posted yesterday
 S:NP=Detnr+Head+Mod:Cl PMod;S(12(O^cS₁V))V^b3

The letter, which Kim had written, was posted yesterday
 S:NP=Detnr+Head+Pph-Dep:Cl PMod; S(1[2(O^cS₁V)])V^b3

He was the first person to arrive
 S PPC^s:NP = Detnr + Mod + Head + Mod : InfCl; SVP(212(I))

The contract considered invalid by the lawyer was revised
 S : NP = Detnr + Head + Mod : PPcl P; S(12(Y^bPp1))V^b

The symbol O may be extended to Adv_s which function as Comps in VP structure (Huddleston 1988:120 ff.) because of their equivalence to prepositional (oblique) objects:

They put us ashore / on the shore	SPO ^d Comp ; SVOO ₁ (3) / pO ₁
I went home / to the school	SPComp ; SVO(3)/pO
They were going downstairs	SPComp; SVO(3)
They were talking downstairs	SPMod ; SV3

Preps without Comps (1988:125) are marked by asterisks in Jespersen's formulas:

The knife he cut it with was blunt
S:NP=Detnr+Head+Mod:Cl PPC^s;S(1*2(S₁VO_p*)VP

Such behaviour will not be put up with SPSig Prep; S(21)*V^{bn}3p*

The modification of PPs (1988:125) may be indicated by an appropriate use of parentheses:

I'm very much against the idea
SPPC^s:PP=Mod:AdvP+Head+Comp; SV43P(p1)/SVP(432(p1))

The 'identifying' *be* construction (1988:54,179), where P may have a number different from that of S and may be switched to S function, is a case in which P is a primary:

The only solution is more frequent patrols
SPPC^s; S(21)VP(321)/1(P(321))/(21)=(321)

More frequent patrols are the only solution
SPPC^s; S(321) V1(P(21))/(321)=(21)

The best place to park is opposite the post office
SPPC^s; S(212(I))V1(P(p21))/(212(I))=(21)

The difference between the last sentence and the following

The new toy shop is opposite the post office
SPMod; S(221) V3(p21)

Opposite the post office is the new toy shop
ModPS; 3(p21) VS(221)

is made quite evident by the formulas.

For Jespersen – 'I venture to coin this new term' (III 1927:23) – a content clause CCl is a *that-clause*, with or without *that*, which functions as a primary, i.e. S/O of V directly or extraposed by means of *it*, or O (rarely S) of X or quasi-X, adjectives and prepositions (*suggestion, fact, etc., sure, glad, etc., except, in, etc.*). Huddleston uses the term much more extensively (1988:161 ff.):

You'll be disappointed, whichever one you choose
ClPph-Dep:CCl;SVP3(O^c(21)SV)/[3(O^c(21)SV)]

He had invited his mother, that she might see the situation for herself
SPO^dMod:CCl; SVO(S²1)3(3^cS₁VO_p1)

I realise why they want it SPO^d: CCl ; SVO(3? S₁VO)

I wonder whether/if they want it " ; SVO(3^cS₁VO?)

The raising/non-raising contrast for clauses (1988:165) is pretty well rendered by Jespersen's formulas:

i Kim happened to find the letter (raising)
SPCatC ; ¹/₂SV¹/₂S(IO)

ii Kim managed to find the letter (non-raising) " ; SVO(IO₁)

iii Pat intended Kim to find the letter (raising)
SPCompCatC ; SVO(S₁IO₁)

iv Pat asked Kim to find the letter (non-raising)
SPCompCatC ; SVO^oO(IO₁)

v Ed heard the guard beating the prisoner (raising)
SPCompCatC; SVO(S₁GO₁)

vi Ed caught the guard beating the prisoner (non-raising)
SPCompCatC; SVO(12(YO₁))

In the first example (i) 'Kim belongs semantically in the *find* clause but appears syntactically in the *happen* clause...: it is as though *Kim* had been raised out of the subordinate into the superordinate one' (1988:165). For Jespersen the infinitive-nexus *Kim ... to find the letter* is split in two parts, ¹/₂ S ... ¹/₂S(IO), which together form the (notional) subject of the sentence. All the other sentences, and their differences, are explained by the formulas.

The understood subject of non-finite clauses (1988:167) may be easily indicated in the formulas:

Liz promised Ed to revise the brochure SPOⁱCatC ; SVOⁱO(S^oIO₁)

Liz advised Ed to revise the brochure
SPOⁱCatC ; SVO(S₁IO₁)/OⁱO(S^o(Oⁱ)IO₁)

Ed said not to wake him till noon
SPO^d : InfCl ; SVO(S^o₁IⁿO(S)p1)

When 'to-infinitivals ... have the direct object or the complement of a preposition missing but understood from the superordinate clause' (1988:168), they are called retroactive by Jespersen and asterisks are used in the formulas:

The proofs are ready for you to check
SPPC^s:AdjP;S(O*)VP(2pS₁I*)

Ed is easy to get on with
SPPC^s ;S(O*)VP(2I3p*)

6. Conclusion

Most of the difficulties in understanding HG arise from terminological redundancy or inconsistency. There are scores of different clause terms but many of them define linguistic units which are not clauses at all, in the traditional and Jespersen sense, because they are deprived of an essential element, the subject. This doing away with what is the nexus in JG is one of the main weaknesses of HG with respect to JG.

There are also a large number of terms for the syntactic functions. A direct object may be called a Dep or Comp or O or O^d and a modifier may be called a Dep or Ajn or Mod, but in all this abundance we cannot find a term which defines the syntactic function of a that-clause functioning as a NP or of a prepositional phrase functioning as an AdvP.

The content clause has a very wide scope in HG. All the finite subordinate clauses which are not relatives or comparatives are content clauses. But what is the point of establishing such a vast range of clauses, in which clauses functioning as Comps or Mods or Php-Deps are mixed up? Jespersen coined this term for a that-clause functioning as a primary. The introduction of the catenative complement is

certainly due to the structuralist orientation of HG, where structuralist here means that 'the grammatical categories postulated derive from a study of the combinatorial and contrastive relationships the words and other forms enter into' (Huddleston 1984:xi). This complement blows to pieces the verbal position V, which is one indissoluble unity in JG, and becomes, after the destruction of the concept of nexus, the second most important cause of incongruities, this time terminological, in HG (for instance, it implies the existence of clauses which are reduced to mere participles).

Against the proliferation of terms in HG, I can set the admirable scientific synthesis that Jespersen realized with his grammar, which is based on two fundamental ideas: the ranks and the distinction of junction and nexus. In my view, this synthesis is comparable with the three famous Kepler laws of planetary motion and the two Maxwell equations of electromagnetism.

Christophersen wrote in his review of my book:

The remark just quoted shows that Di Giorgi's use of the formulas is somewhat different from what Jespersen had in mind originally with his system. From my work with Jespersen I can say that he imagined his formulas as useful in scholarly debate, but not normally in practical language teaching, except possibly at a very advanced level, where instruction becomes in effect a concern with principles of syntactic analysis (1995:11).

As I stated at the beginning of this article, I do think that the formulas may have a more extensive use. As secondary education stands at present in my country, algebra is taught to eleven-year-old students. I cannot understand why students who are supposed to be capable of grasping the algebraic laws and handling mathematical symbols could not assimilate the idea of word-hierarchy (the ranks), the distinction between junction and nexus, and the use of syntactic symbols. An early contact with a formal syntactic system would give them greater grammatical awareness for their lifetime and facilitate their learning of their own language as well as the classical and foreign languages.

I hope that I have demonstrated how powerful Jespersen's formalism still is and how easily, if need be, it can be modernized. The conclusion may be taken from the outside back cover of my book (1994) – Jespersen's formulas show

extraordinary capability of representing, simply and clearly, the ... complex characteristics of a grandiose and majestic natural language as English ... The method for analysing the syntactic structures [based on them] is due to a giant of linguistics and, apart from the later progress of this science, is certain to be still of great practical value to students and teachers.

*Corso Massimo D'Azeglio, 10
I - 10125 Torino*

Notes

1. I should like to record my thanks to an anonymous reader who has kindly read an earlier draft of this paper. The present version has benefited greatly from his/her comments and my English would be more awkward and clumsy without his/her stimulating observations. I am deeply indebted to him/her.
2. Needless to say, I prefer my definition of simple sentence (one that has only one nexus; 1994:3). This excludes from the category of 'simple sentence' sentences containing the items I, X, G, Y, which are nearly always additional nexuses.
3. P represents a 'predicative of being', P₁ represents a 'predicative of becoming/result' and the notation pPpP₁ represents the transition from P to P₁.
4. In the last sentence the Pph-Dep *in my view*, a special case of Ajn (see 3 p. 24 ff.), is rendered by means of the symbols [] and §. As may be seen from what precedes, when the preposition governs a noun or a junction, pO occurs instead of p1, provided that the prepositional group is not secondary or tertiary but may be interpreted as an object of the verb through a preposition, i.e. primary. In my book I adopted the symbol pO also when the regimen is G or I or a clause, independently of its function in the nexus, to indicate that such constituents may also be objects of a preposition, but I admit that this may be the cause of some confusion.

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Appendix I

Huddleston's symbols

Adj	adjective	Oi	indirect object
AdjP	adjective phrase	P	predicator
Adv	adverb	PC	predicative
AdvP	adverb phrase	PC ^o	objective predicative
Cl	clause	PC ^s	subjective predicative
Comp	complement	PossP	possessive phrase
Dep	dependent	PP	prepositional phrase
Detnr	determiner	Pph-Dep	peripheral dep. (Periph-Dep. in HG)
Detve	determinative	Pred	predicate
DetveP	determinative phrase	Prep	preposition
Mod	modifier	S	subject
N	noun	TDC	tensed declarative clause
NP	noun phrase	V	verb
O/Od	object, direct object	VP	verb phrase

My additions to Huddleston's symbols:

Ajn	adjunct	MCl	main complex sentence
CatC	catenative complement	PPCl	past-participial clause
CCl	content clause	PrPCl	pres.-particip. clause
FrCl	fused relative clause	VbsCl	verbless clause
InfCl	infinitival clause	NP'	NP without Detve

Jespersen's Symbols

1	primary	&c	coordinating particle
2	secondary	s	subject 'it' in extraposit.
3	tertiary	o	object 'it' in extraposit.
4,5	quaternary, etc.	oi	ind. object in extraposit.
S, S ₁ ...	subjects (S, S ₂ ...in AS)	v	auxiliary verb
V	finite verb	()	explicative brackets
O, O ₁ ...	direct objects (O, O ₂ ...in AS)	{ }	two items in the same form
O ⁱ	indirect object	[]	extraposition or apposit.
P	predicative	3/s	existential there
I	infinitive	?	question
G	gerund	!F	request (≠ in AS)
X	nexus-substantive	!!	wish
Y	participle or agent	!	exclamation
p/pp	prepositions	§	ref. to a whole sentence
* ... *	related distant words	3c	subordinating conj.

The following small letters placed as superscripts have the meaning indicated in brackets: a (active), b (passive), n (negative), c (connective), 2 (primary changed into secondary), o (understood).

My additions to Jespersen's symbols are p^oI for bare infinitive and V_s for the syntactic function signifier (Sig) of my invention.

Appendix II

Possible combinations of determinatives :

All Ann's many virtues	I II (PossP) III N
All the students are coming to the parties	I II N
All five men are hard workers	I III N
All students hate exams	I N
All you boys need to work harder	I II N
I want both the / these books	I II N
Both his younger brothers are in the army	I II Adj N
What a marvellous idea it was !	I II Adj N
He's such a kind man!	I II Adj N
On such an occasion as this	I II N

Half (one-third /three-quarters) the boys are already here	I II N
His income is double the national average	I II Adj N
Take the medicine twice a day	I II N
What book would you recommend ?	II N
What little money I have is in the bank	II III N
A few corrections, a little gratitude	II N
These many corrections	II III N
That many corrections	Adv III N
A dozen eggs	II III N
No such words become a girl	II III N
Harrison, or some such name	II III N
I have met many such people	III III N
The regulations apply to all such hospitals	I III N
Her every gesture	II III N
There are buses to the station every ten minutes	III III N