



# An Introduction to Syntactic Theory

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# **An Introduction to Syntactic Theory**

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*To the memory of my brother  
Michael J. Moravcsik*

**Continuum**

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# Preface

## 1 Main points

Why are there so many different approaches to syntactic description? What is it about sentence structure that keeps on inviting new attempts to analyse it? The answer proposed in this book centres on the existence of conflicts in the data.

In the recent linguistic literature, there has been increasing attention paid to the nature and the resolution of conflicts in grammatical descriptions, also referred to as mismatches. Conflicts arise between syntax and meaning, between syntax and phonetic form, and among various aspects of syntax itself. Such mismatches and the problems that they pose have been central to Autolexical Grammar, Cognitive Grammar, Construction Grammar, Functional Grammar and Lexical-Functional Grammar, and have been seminal in Optimality Theory.

That the attempt to resolve conflicts is an overarching theme across syntactic theories has been suggested by Ray Jackendoff. As he considers various accounts of tense in English, which is morphologically marked on the verb even though it has the entire proposition in its semantic scope, Jackendoff notes that there is a mismatch here between phonology and meaning and he remarks:

Much dispute in modern syntax has been over these sorts of mismatch and how to deal with them. (I don't think most linguists have viewed it this way, though.)

(Jackendoff 2002: 15)

A step in the direction of surveying various syntactic theories from the point of view of how they accommodate conflicts has been taken by Elaine J. Francis and Laura A. Michaelis (2003) in their introduction to a collection of studies on mismatches and in some of the papers in that volume. This book, *An Introduction to Syntactic Theory*, may be viewed as a further exploration of this idea. Drawing upon the theoretical literature of the past few decades, it presents selected analyses from different syntactic frameworks and makes two main points.

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- (1) Many of the various conceptual tools employed by syntacticians are designed to resolve conflicts in the data.
- (2) Given that there is a limited range of the logically available ways of conflict resolution, the range of syntactic theory types is limited as well and their diversity can be systematically characterized in terms of the conflict-resolving constructs they employ.

The book is meant for undergraduate and graduate courses. An introductory linguistics course and basic familiarity with syntactic analysis are presupposed. Illustrative data are taken from English and several other languages.

## 2 Overview

Chapter 1 'Parameters of syntactic theories' surveys various ways in which syntactic theories may differ and states the goals that all syntactic theories must share, including consistency of descriptions. On two examples – English imperatives and *wh*-questions – it is illustrated how accounts that strive to be both empirically correct and general can run afoul of the consistency requirement. An overview is provided of the major types of conflict and the logically possible ways in which they can be dealt with. Each alternative analysis of English imperatives and *wh*-questions is identified as an instance of a general type of conflict-resolution.

Chapter 2 'Alternative analyses of syntactic structures' discusses conflicts that arise in the analysis of syntactic form. Examples of discontinuous linear order and 'long-distance' verb agreement are taken up along with their resolutions found in the literature.

The next two chapters turn to conflicts between syntactic form and meaning. In Chapter 3 'Alternative analyses of symbolic correspondence relations: co-ordination', the problem is illustrated on co-ordinate structures; various suggestions are gleaned from the literature on how to solve them. Chapter 4 'Alternative analyses of symbolic correspondence relations: grammatical functions' discusses mismatches between semantic participant roles and grammatical functions, with the focus on 'double-object' constructions and their various analyses.

In Chapter 5 'Alternative analyses of syntactic variation and change', data on cross-linguistic variation of constituent order are presented; various resolutions of the conflicts in this domain are surveyed as they emerge from the typological literature. Syntactic change is discussed as it takes place in individual development: the acquisition of relative clause structures by children. Conflicts in the data are made explicit and alternative resolutions presented.

While the preceding chapters used analyses of specific aspects of syntax taken from different approaches, Chapter 6 'Four contemporary approaches to syntax' provides overall characterizations of four families of contemporary syntactic approaches: transformational grammars, dependency grammars, construction grammars and optimality theory.

Each chapter is followed by a set of exercises. Some of the questions are based on the language data in the appendix, which contains a set of 18 sentences given in six languages. There is a list of symbols and abbreviations following the preface and a glossary in the back of the book.

### 3 Acknowledgements

Many people have provided indispensable help for this project. First and foremost, it is with very special gratitude that I think of Joseph H. Greenberg and Gerald A. Sanders whose views on language and linguistics will be apparent throughout the book.

Joseph Greenberg's pioneering oeuvre encompassing many fields of linguistics and anthropology is well known. In this book, I have mostly relied on his work in language typology, major highlights of which are the recognition and fruitful use of implicational statements as the principal means of capturing constraints on language variation, and the elaboration of the claims of markedness theory.

Gerald Sanders' 1972 book *Equational Grammar* presented a comprehensive theory of grammar. In it, several ideas that have since been independently proposed and now figure prominently in various current syntactic approaches were first put forth and synthesized within a coherent and principled framework. These include the insights that syntactic and phonological rules, just like lexical entries, express symbolic correspondence relations between meaning and form; that rules of syntactic selection and linear order must be separately formulated; that linear order be recognized as a feature of phonetic form; that linear order statements be surface-true and thus invariant in the course of grammatical derivations; that the application of rules should be motivated by the requirement of full phonetic and semantic interpretability; and that the discourse, rather than the sentence, is the proper domain of linguistics.

I also want to thank my other professors and mentors in linguistics as well as my teachers of Hungarian grammar in elementary and high school in Budapest for all that I learnt from them.

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# Symbols and Abbreviations

## Symbols

In interlinear glosses:

- indicates morpheme boundaries
- : indicates morpheme boundaries in the English gloss that are not shown in the object-language words
- . indicates two words in English for one word in the object language
- & indicates temporal precedence: 'A & B' means 'A immediately precedes B'
- , indicates co-occurrence in some unspecified linear order: 'A, B' means 'A and B co-occur'
- \* indicates ungrammatical constructions
- ? indicates constructions of questionable grammaticality

## Abbreviations

These abbreviations mostly follow those given in the Leipzig Glossing Rules (<http://www.eva.mpg.de/lingua/files/morpheme/html>). They stand for grammatical markers of the categories indicated.

ABL	ablative case
ABS	absolute case
ACC	accusative case
ADJ	adjective
ADP	adposition
ANT	anterior tense
ART	article
AUX	auxiliary
CL <sub>1</sub>	noun class 1
CL <sub>2</sub>	noun class 2
CM	case marker
DAT	dative case
DECL	declarative sentence
DEF	definite

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DEM	demonstrative
DET	determiner
DO	direct object or direct object case marker
ERG	ergative case
FEM	feminine gender
FOC	focus
GEN	genitive case
GER	gerund
INDEF	indefinite
INF	infinitive
InfM	infinitive marker
INS	instrumental
IO	indirect object or indirect object case marker
M	modality
MSC	masculine gender
NEG	negative
NEU	neuter gender
NOM	nominative case
NP	noun phrase
NPST	non-past tense
OBJ	object or object marker
P <sub>1</sub>	first person plural
P <sub>2</sub>	second person plural
P <sub>3</sub>	third person plural
PART	participle
PASS	passive
PERF	perfective
PL	plural
PP	prepositional phrase
PREP	preposition
PROG	progressive aspect
PRS	present tense
PST	past tense
Q	question particle
REFL	reflexive
REL	relative clause
S <sub>1</sub>	first person singular
S <sub>2</sub>	second person singular
S <sub>3</sub>	third person singular
SBJ	subject case
SG	singular
TOP	topic
TRANS	transitive
you(r) <sub>p</sub>	plural 'you(r)'
you(r) <sub>s</sub>	singular 'you(r)'

## Chapter One

# Parameters of Syntactic Theories

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Please signal in one direction only.

(Elevator sign in the Memorial Library of the University of Wisconsin-Madison, 2001)

## 1 Preliminaries

The goal of grammatical descriptions is to characterize the well-formed sentences of a language. There are different ways in which sentences can fail to be well-formed; accordingly, different kinds of rules are needed to describe well-formedness. Here is an example.

Suppose you want to say the English sentence *The plane landed safely*. In (1)–(5) are shown various ways in which the sentence may be ill-formed:

- (1) (a) \**The **r**plane landed safely.*
- (b) \**The **l**plane landed safely.*
  
- (2) (a) \**The plane **land-ed-s** safely.*
- (b) \**The plane **ed-land** safely.*



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- (3) (a) \**They the plane landed safely.*  
(b) \**Plane the landed safely.*
- (4) \**The Flugzeug landed safely.*
- (5) \**The generosity landed safely.*

In (1) phonological ill-formedness is illustrated: a word-initial consonant cluster containing /r/, /p/ and /l/, as in (1a), is not pronounceable in English regardless of the order in which they appear. Word-initial clusters consisting of /p/ and /l/ are pronounceable but only if /p/ precedes /l/ and not if /l/ precedes /p/, as is the case in (1b). To exclude sentences such as those in (1), **phonological rules** are needed to specify the permissible selection and ordering of phonetic segments.

The problem with the sentences in (2) is different. The choice and ordering of the phonetic segments comply with English pronunciation constraints; here the cause of ungrammaticality is the choice and ordering of morphemes. *Land-ed-s* (as in (2a)) consists of a verb stem, a past tense affix and the third person singular agreement marker. This combination of morphemes does not make a well-formed English word in any order. The morphemes of *ed-land* (as in (2b)) – verb stem and past tense affix – are properly chosen for making a word but are not correctly ordered. The rules responsible for excluding forms such as those in (2) that state the proper selection and order of morphemes are called **morphological rules**.

The sentences in (3) also illustrate the illegitimate choice and ordering of meaningful units but here, these units are entire words rather than morphemes: (3a) has an extra word in it – *they* – which makes the sentence ungrammatical; (3b) has the right words in the wrong order. Specifying what words can go together in a sentence and in what order is the minimal task of **syntactic rules**.

The sentence in (4) fails because it includes a word that is not part of English vocabulary: *Flugzeug* is the German word for ‘plane’. The sentence thus violates a rule that states what word form can express what meaning in English. Such rules are called **lexical rules**.

Finally, (5) is ill-formed because the meaning that it conveys is non-sensical: abstract nouns like *generosity* cannot land. Rules that characterize well-formed meanings are called **semantic rules**.

For a sentence to be fully well-formed, all its various kinds of components – sounds, morphemes, words and meaning elements – have to be selected and arranged correctly. While all the various types of rules surveyed above are concerned with the choice and arrangement of components of one kind or another, the examples in (2) highlight the special contribution that syntactic rules make to the entirety of a grammar. These rules address well-formedness as it depends on the choice and the ordering of words and of larger units that words are parts of, such as phrases and clauses.

The syntactic structure of the sentence *The plane landed safely*, stated in terms of word classes and phrase classes, is as follows (& means ‘immediately precedes’):

(6) [[Article & Noun]<sub>NP</sub> & [Verb & Adverb]<sub>VP</sub>]<sub>S</sub>

The rules characterizing this sentence as having a well-formed syntactic structure are given in (7):

(7) (A) INVENTORY OF SYNTACTIC CATEGORIES

article, noun, verb, adverb and so on.

(B) SELECTION OF SYNTACTIC CATEGORIES

(a) Article and noun may be selected to form a noun phrase.

(b) Verb and adverb may be selected to form a verb phrase.

(c) Noun phrase and verb phrase may be selected to form a sentence with the noun phrase as subject.

(C) ORDERING OF SYNTACTIC CATEGORIES

(a) Given that an article and a noun have been selected for a noun phrase, the article must precede the noun.

(b) Given that a verb and an adverb have been selected for a verb phrase, the verb may precede the adverb.

(c) Given that a subject noun phrase and a verb phrase have been selected for a sentence, the subject noun phrase must precede the verb phrase.

In addition to accounting for well-formed syntactic structures, rules of syntax also need to relate these structures to sentence meanings, on the one hand, and sentence pronunciations, on the other. In our example sentence above, syntactic structure and meaning, and syntactic structure and phonetic form match, but this may not always be the case.

For example, in the sentence *Bill entered and sat down*, Bill is understood as the subject of the second verb as well – *sat down* – even though it does not appear in syntactic structure. This illustrates a gap between syntax and meaning. Similar gaps exist between syntax and phonetic form. For example, in the sentence *I wanna go to a café*, the single phonetic form *wanna* corresponds to two syntactic constituents: *want* and *to*. Rules that state the permissible pairings of syntactic structures and meaning, on the one hand, and syntactic structures and phonetic form, on the other, are called **symbolic correspondence rules**.

Based on this discussion, syntax appears to be a straightforward matter. It would seem that there was only one way of describing syntax: by specifying the inventory of syntactic categories available, constraints on selecting categories from this inventory to form sentences, constraints on the linear order of the categories, and symbolic correspondence relations connecting syntax with meaning and pronunciation.

However, this is certainly not the case: syntax has been described in many different ways by many different theories. A 1979 conference on syntactic theories featured 14 different frameworks: Cognitive Grammar, Corepresentational

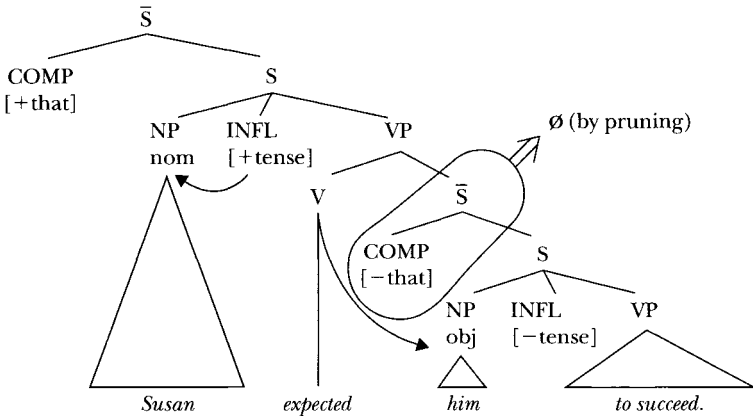
#### 4 An Introduction to Syntactic Theory

Grammar, Daughter-Dependency Grammar, Epiphenomenal Grammar, Equational Grammar, two versions of Functional Grammar, Functionally-Interpreted Base-Generated Grammar, Montague Grammar, Relational Grammar, Role and Reference Grammar, Stratificational Grammar, Tagmemics and Trace Theory. This roster actually fell quite a bit short of covering the entire then-current scene: a number of approaches – among others Tesnière’s Dependency Grammar, Bar-Hillel’s Categorical Grammar, Halliday’s Systemic Grammar, Shaumyan’s Applicative Grammar and Starosta’s Lexicase – remained unrepresented at the meeting.

Since that time, new developments have taken place within these frameworks and a number of additional approaches have entered the field. They include Noam Chomsky’s Government and Binding Theory and his Minimalist Theory, Paul Postal’s Arc-Pair Grammar, Richard Hudson’s Word Grammar, Ronald Langacker’s Cognitive Grammar, Joan Bresnan’s Lexical-Functional Grammar, Gerald Gazdar, Ewan Klein, Geoffrey Pullum and Ivan Sag’s Generalized Phrase Structure Grammar, Ivan Sag and Thomas Wasow’s Head-Driven Phrase Structure Grammar, Igor Mel’čuk’s Dependency Grammar, Ivan Sag’s Unificational Theory, Jerrold Sadock’s Autolexical Syntax, the Columbia School approach, William McGregor’s Semiotic Grammar, as well as various versions of Construction Grammar, Optimality Theory and Usage-Based Models. The *Concise Encyclopedia of Syntactic Theories* published in 1996 presents about thirty frameworks (Brown and Miller 1996). And even this number may account for only a small subset of the possible theories of syntax: in a not-completely tongue-in-cheek manner, James McCawley titled a collection of his articles *Thirty Million Theories of Grammar* (McCawley 1982a).

An illustration of the range of differences among the various frameworks is provided below by representations of the English sentence *Susan expected him to succeed*, as proposed by Government and Binding Theory, Relational Grammar and Word Grammar.

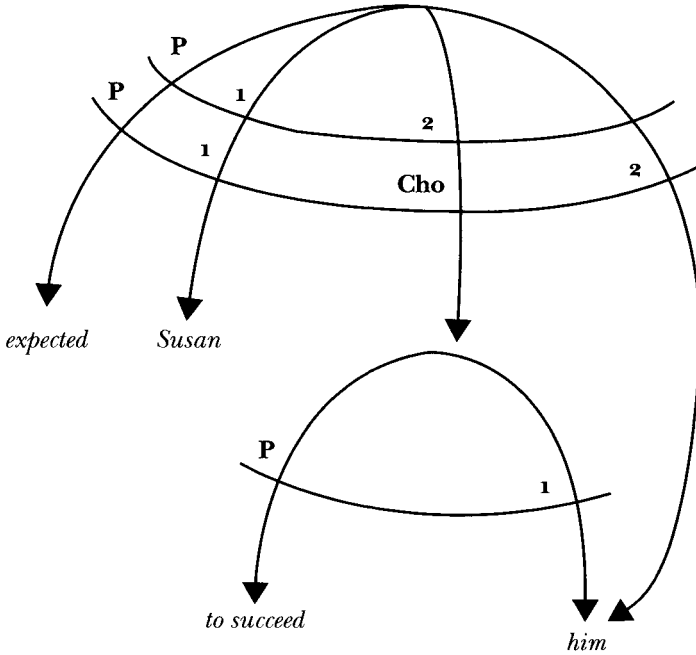
#### (8) Government and Binding Theory (see Horrocks 1987: 108)



Notation:

- triangles indicate lack of detail on phrase-internal structure
- single arrows point from governor to governee
- the double arrow indicates a transformational rule

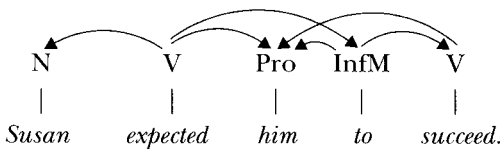
(9) Relational Grammar (see Blake 1990: 96, 97)



Notation:

- P = predicate
- 1 = subject
- 2 = direct object
- cho = chomeur (i.e., a syntactic constituent that bears no grammatical relation to the verb)

(10) Word Grammar (see Hudson 1984: 112)



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Notation:

Arrows point from heads to dependents.

The three diagrams are alike in some ways and different in other ways. While none of them tell the whole story about the analysis of the sentence in the given framework, each shows some of the salient features of the approach. Let us see what the diagrams have in common and how they differ.

First, all three diagrams represent sentences as **partonomic** – whole–part – structures but, whereas Government and Binding assumes a multi-layered partonomy (called constituent structure), with sentences containing clauses, clauses in turn containing phrases, and phrases broken down into words, Word Grammar has only two layers: words are immediate parts of sentences. Word Grammar does not represent sequences of words that ‘act together’ as wholes – that is, phrases; instead, it represents **head-dependent** relations among words. The unitary behaviour of head and dependents is accounted for by a principle that requires that the dependents be adjacent to their heads.

Second, all three diagrams reflect a **taxonomy** (type-token relations) of syntactic constituents. However, the category types employed are different. The node labels in the Government and Binding tree are S, NP, V and so on, all of which are non-relational categories. The nodes in the Relational Grammar tree – predicate, subject, direct object and chomeur – are of the relational kind: a subject is a subject of a predicate, unlike a noun phrase which is not ‘the noun phrase of a predicate’, and so are those of Word Grammar, which, as noted above, assumes a division of words into the relational categories of heads and dependents. In the Government and Binding diagram, one constituent – COMP(lementizer) – has no phonetic form; in the other two frameworks, all syntactic constituents are phonetically realized.

Third, while both Government and Binding and Word Grammar represent the **linear ordering** of the constituents as they actually appear in the sentence, Relational Grammar shows the sentence in a more abstract form in terms of the mere presence of constituents but not how they are arranged.

Fourth, the three approaches differ in whether they assume **single or multiple levels** of syntactic representation. Note that the crux of the construction is the grammatical function of the word *him*: is it an object or a subject? Its oblique form makes it look as if it is the direct object of the main verb *expected*; however, it functions as the subject of the infinitive *to succeed*. Its linear position is consistent with both analyses: it directly follows the main verb as direct objects are wont to and it immediately precedes the infinitive as subjects do.

The three approaches deal with this conflict in different ways. In Word Grammar, there is a single level and the double allegiance of the word *him*

is shown by multiple dependency arrows. Government and Binding and Relational Grammar both posit multiple levels to do justice to the double nature of *him* although they do this in different ways. Relational Grammar represents various levels within the same diagram: they form a single representation. The subordinate clause – *him to succeed* – has only a single-level structure but the main clause – *Susan expected . . .* – has two strata. The top horizontal arch in (9) shows the initial stratum; the second arch shows the final stratum. Here is how the two strata differ.

(11)		predicate:	subject:	direct object:	chomeur:
	initial				
	stratum:	<i>expected</i>	<i>I</i>	<i>him to succeed</i>	0
	final				
	stratum:	<i>expected</i>	<i>I</i>	<i>him</i>	<i>him to succeed</i>

The process connecting the initial and the final strata is called ascension: *him*, the initial subject of the subordinate clause, ascends into the main clause to become the direct object of the main verb *expected*. The initial direct object of *expected* – the subordinate clause – then loses its grammatical relation and becomes a ‘chomeur’ (‘unemployed’ in French).

In contrast to Relational Grammar, in Government and Binding Theory each of the multiple representations of a sentence is shown in a separate diagram. The tree diagram in (8) is a surface structure except for the circled portion, which is a part of the underlying structure. It is subsequently deleted (‘pruned’) and thus prevented from appearing on the surface. The pruning operation reduces the syntactic distance between the main verb *expected* and *he*, the subject of the subordinate clause. This enables the main verb to be sufficiently close to the object *him* to serve as *him*’s governor and thus to assign accusative case to it.

Exactly what is it about syntax that is so complex as to call for different ways of describing it? Is there anything that syntacticians all agree on? What are the differences and what drives them? Addressing these questions is the task of this book.

This is how we are going to proceed. In the present chapter, we will first consider logically possible ways in which syntactic theories may and may not differ and then consider actual differences and probe into the general reasons why the various options are resorted to. In the three chapters to follow, we will look at some proposals in the literature regarding various aspects of syntax: proposals regarding syntactic structure (Chapter 2) and regarding the symbolic correspondence relations between syntax and meaning (Chapters 3 and 4). Chapter 5 will present alternative analyses of syntactic variation and change. Chapter 6 gives brief overall characterizations of four contemporary approaches to syntax. Chapter 7 provides some thoughts on the roots of conflicts in syntax.

## 8 *An Introduction to Syntactic Theory*

### 2 How can syntactic theories differ from each other?

#### 2.1 NECESSARY SIMILARITIES

Theories of syntax – as theories of anything else – are human artifacts created in the pursuit of the goal of making sense of the world. Thus, the characteristics of theories can conveniently be viewed as **goal-related** and **means-related**. In both domains, there are some necessary resemblances across theories: goals and tools that all syntactic theories must share, and a limited range of differences. We will start with the similarities.

##### 2.1.1 *Shared goals*

A theory is a scientific tool that consists of a set of generalizations. The aim is the comprehensive description and explanation of some set of observations about the world. A theory of syntax aims at describing and explaining the structure of utterances in human languages. The descriptions derived from the theory should mirror commonalities and differences among utterances of a language and among utterances of different languages, as well as commonalities and differences between the syntax of natural languages and things outside it.

Theories in general, and linguistic theories in particular, can therefore be viewed as a kind of language: they serve to make it possible to talk about things. Natural languages express the speaker's ideas about the world; theories of natural languages express the analyst's ideas about natural languages. The language of linguistic theories is called **metalanguage** (the Greek morpheme *meta* means 'after'). Just like natural languages, syntactic metalanguages, too, can be compared and classified into types.

Users of natural languages are constrained by the grammar of their language in what they can say and how they can say it. Similarly, theory-builders are constrained in formulating their metalinguistic statements. These constraints are dictated by two factors: external reality – as perceived by the observer – and the goals and means of the human mind.

The first constraint on theory-building is the requirement of **empirical adequacy**. A sculptor faces a block of marble and he attempts to carve out the likeness of a person. In the same way, the theorist faces a block of logical possibilities regarding what things could be like and he needs to find the true image of his object within that block by chiselling off just the right amount of material for that image to emerge. His description should neither under-represent nor over-represent reality. What syntactic theories have to represent are the well-formedness of strings of words that make up sentences and the symbolic correspondence relation between these strings of words and meaning, on the one hand, and phonological form, on the other.

While the facts greatly contribute to defining the nature of theories, they do not fully determine it. As Albert Einstein said about physics: 'Physical concepts are the free creations of the human mind and are not, however it may

seem, uniquely determined by the external world' (Harrison 1999: 127). This statement highlights the other factor that enters into theory-formation, whether in physics or in other sciences: the **human mind**. Reality itself is free of 'problems' and 'solutions'; it is our minds that formulate problems and look for ways of solving them.

There are three requirements for scientific theories in general and syntactic theories in particular that stem from the aspirations and limitations of the human mind. First, descriptions must be **general**. It is only by means of generalizations that infinite sets of objects can be described and explained by token of a finite number of statements.

The second conceptual constraint on scientific accounts is **consistency**: they have to be couched in the language of the rational mind, which means they have to be free of contradictions. Just as the pea-brain of the elevator cited in the epigraph to this chapter asks not to be instructed to go both up and down at the same time, the much more mighty cognitive apparatus of human beings, too, balks at contradictions. A statement according to which something is both A and not-A at the same time remains indigestible to human rationality. The conceptual roots of the requirement of consistency are underlined by Nicholas Rescher: 'The quest for consistency is a matter of practical human convenience – a response to the demands of a limited creature with an intolerance to cognitive dissonance and an incapacity to accept inconsistency' (Rescher 1987: 315).

The third requirement imposed on theories by the human mind is **simplicity**. This requirement is also closely tailored to human needs: accounts are best if they are simple so that not too much of the limited time and energy that people have available needs to be spent on grasping them.

Since these four goals are shared by all theories in any science, they form common goal-related denominators for syntactic theories as well. The next question has to do with the means whereby these goals can be achieved.

### 2.1.2 *Shared tools*

Minimally, there are five conceptual tools that all syntactic theories will necessarily share. In order to characterize any object in a general way, that object must be broken down into component parts and properties so that a unique object can be shown to be a unique combination of non-unique components. Furthermore, these components need to be assigned to categories. Given that the segmenting of larger structures into components and the classification of the latter are therefore indispensable steps in all scientific analyses, **partonomic** and **taxonomic relations** are necessarily part of the conceptual armamentarium of all syntactic theories as well.

Partonomic and taxonomic relations define units such as words, phrases and clauses, and place them into categories such as adjective, verb phrase and relative clause. Since syntactic descriptions have to account for the selection and order of words, two additional relations must be posited to hold among syntactic categories: selectional dependency and linear



precedence. **Selectional dependency** is the relationship between two objects where the presence of one requires or allows the presence of another in the same structure. For example, articles and nouns are selectionally related: once an article – such as *a(n)* – has been selected, a noun must be selected as well (e.g. *boy*). **Linear precedence** is the temporal relation that holds between words, phrases and clauses. For example, the linear relation between the English article and noun is article preceding noun: *a boy* and not *\*boy a*.

Given that we are interested not only in well-formed syntactic structures but also in well-formed symbolic correspondence relations that syntactic structures participate in, namely, how syntactic structures relate to the meanings and sound forms of sentences, rules of **symbolic correspondence** are also called for to characterize these relations. An example of a rule regarding the symbolic correspondence relation between syntactic structure and meaning is one that states that in the sentence *A boy hid behind the tree*, the article & noun structure – *a boy* – is a semantic participant (also called a ‘semantic argument’) of the predicate that *hid* conveys. An example of a rule regarding the relationship between syntactic structure and sound form is one that takes care of the correct pronunciation of the indefinite article: in front of a consonant-initial word such as *boy*, it has to be *a*, rather than *an*, as it would be in front of vowel-initial words like *apple*.

Let us summarize our discussion about the goals and tools that syntactic theories necessarily share.

#### A. GOALS

Content:

Syntactic theories must characterize

- well-formed **syntactic structures**
- how syntactic structures convey **meanings**
- how syntactic structures can be **pronounced**

Manner:

Syntactic theories must be

- **true**
- **general**
- **consistent**
- **simple**

#### B. MEANS

As their conceptual means towards obtaining these goals, syntactic theories must posit the following relations:

- **partonomic relations**
- **taxonomic relations**
- **selectional dependency relations**
- **linear order relations**
- **symbolic correspondence relations**

These necessary commonalities among syntactic theories still leave much room for differences – a topic that we will turn to next.

## 2.2 ACTUAL DIFFERENCES

### 2.2.1 *Apparent differences*

First, there may be differences among syntactic approaches that are merely apparent – that is, they do not have to do with truth, generality, consistency or even simplicity. These differences turn out to be likenesses in disguise. For example, whether a particular phrasal category is symbolized as  $N'$  or  $N$  in X-bar theory (Cann 1996), or whether a given semantic participant role is termed Patient or Theme makes no difference at all: it is a matter of arbitrary terminology, a matter of packaging rather than of content.

Similarly, within the framework called *Categorial Grammar*, where grammatical categories are labelled in terms of what other categories they co-occur with and what category results from their co-occurrence, different notational systems yield different representations of intransitive verbs, as shown in (1) (Wood 1993: 12–13). All three notations stand for the same thing: that an intransitive verb is a word that can join a noun to make a sentence.

- (1) (a)  $\frac{s}{n}$  (b) NS (c) SN

The choice between formulaic or discursive ('prose') rules is also notational: whether I say 'The subject immediately precedes the verb' or 'Subject & Verb', the message is the same. The existence of stylistic differences among syntactic approaches points at a similarity between natural language and metalanguage: both allow for synonymy.

In addition to such stylistic, **notational** differences, there is a second type of divergence among syntactic accounts that is equally non-substantive. It has to do with the **actual practice** of the adherents to a theory. For example, *Minimalist Theory* (Atkinson 1996) adopts the sentence for its domain of analysis and thus it would seem to differ crucially from *Tagmemic Theory*, whose basic domain is the discourse – that is, entire sets of connected sentences (Jones 1996). But there is nothing in the basic assumptions of *Minimalist Theory* that would conflict with discourse analysis; it is just that its practitioners have not chosen to exploit this option. The domain difference holds between practices here and not between theories.

A third kind of superficial difference among syntactic approaches has to do with the **choice of factual domains** within syntax. If the claims of different frameworks pertain to different sub-domains of syntax, the frameworks are complementary rather than contradictory. For example, *Relational Grammar* (see (9) in Section 1 and Blake 1990) analyses sentence structure in terms of its immediate constituents – such as subject, object, indirect object and verb – and makes no claims about the internal structure of these

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phrases. Thus, when we compare it with, say, Government and Binding Theory (see (8) in Section 1 and Freidin 1996) whose scope does include the internal structure of the Noun Phrase, we find the two frameworks to be different but compatible.

In sum, we have seen that some differences among syntactic approaches are only apparent. This is so if they are notational, or if they result from different practices of their practitioners, or if they pertain to different factual domains. But there are also possible differences among the goals and means of syntactic theories that are real, rather than apparent. This is the topic that we will turn to next.

### 2.2.2 *Substantive differences*

In Section 2.1, we saw that syntactic theories were alike in some of their goals and in some of the means they use to achieve them. The differences among syntactic theories similarly fall into two kinds: goal-related and means-related.

Syntactic approaches may differ in their choice of **goals**: in addition to those goals that all syntactic theories must by definition subscribe to, other objectives may also be adopted. Examples are practical, interventional applications, such as aiding language pedagogy, remedying pathologies of language, facilitating translation between languages, helping to design orthographies and programming computers for speech production and speech recognition.

More surprising is the tremendous variability of conceptual **tools**. As already seen in Section 1, some approaches posit multi-level derivational accounts of sentence structure while others assume a single level of syntactic representation; some theories make major use of multi-layered constituent structure while others assume minimal sentence paronomies consisting of only two layers: sentences and words; some theories assume that selection and order should be specified together while others assume separate selection and order rules. Some of the variability of theoretical constructs follows, understandably, from differences in goals: different goals cannot be expected to be obtainable with the same means. But even descriptions subscribing to the same goals often use different conceptual devices. Why?

A complete answer to this question would have to take many factors into account, such as the sociological setting within which linguists conduct research, the analyst's philosophical orientation and psychological factors. While such a comprehensive view of the matter cannot be offered in this book, our discussion will highlight one important factor: **conflicts among goals**.

As discussed in Section 2.1.1, theories have to be true, general, consistent and simple. However, when linguists attempt to comply with the first two requirements – truth and generality – they often come up short of one or the other of the two remaining constraints – consistency and simplicity. In Section 3, we will analyse aspects of syntax where such conflicts arise and begin to try to sort out the various ways in which syntacticians have come to grips with the conflicts. We will see that conflicts can be dealt with in different ways and that

the differential resolutions of conflicts go a long way towards accounting for the differences among syntactic theories.

### 3 Why are there different syntactic theories?

#### 3.1 IMPERATIVES IN ENGLISH: THE PROBLEM

For an example of the conflicts that arise in syntactic analysis and whose alternative resolutions yield alternative descriptions, consider English imperative sentences:

- (1) (a) *Go home!*
- (b) *Take your medicine!*
- (c) *Love your neighbour!*

What are the selectional statements that characterize such sentences? At first, one might propose the following:

- (2) Imperative sentences consist of a verb and its complement(s).  
They do not include a subject.

However, although no subject is visible in the sentences of (1), there is syntactic evidence that the subject is there, after all. Compare the following:

- (3) (a) *Love yourself!*
- (b) *Don't hurt yourself!*
- (c) *Mind your own business!*
- (d) *Don't stub your toe!*
- (e) *Close the door, will you?*
- (f) *Pass the salt, won't you?*

Taking any one of these sentences by itself, we find no syntactic reason to depart from the assertion that they lack a syntactic subject. Of course, the meaning of a YOU-subject is present: a command is always meant for the addressee of the speech situation, but the syntactic structure bears no trace of this subject if we consider each sentence singly. If, however, we want to subsume these sentences under general rules, a conflict arises: although the sentences lack an actual subject, they act **as if** they had one. Here are three arguments to this effect.

First, the sentences (3a) and (3b) include the reflexive pronoun *yourself* which in other English sentences occurs only if the sentence has *you* for its subject. This is shown in (4).

- (4) (a) *You will hurt yourself.*
- (b) *\*I will hurt yourself.*
- (c) *\*John will hurt yourself.*