

Transformational Syntax

**A student's guide to
Chomsky's Extended Standard Theory**

ANDREW RADFORD

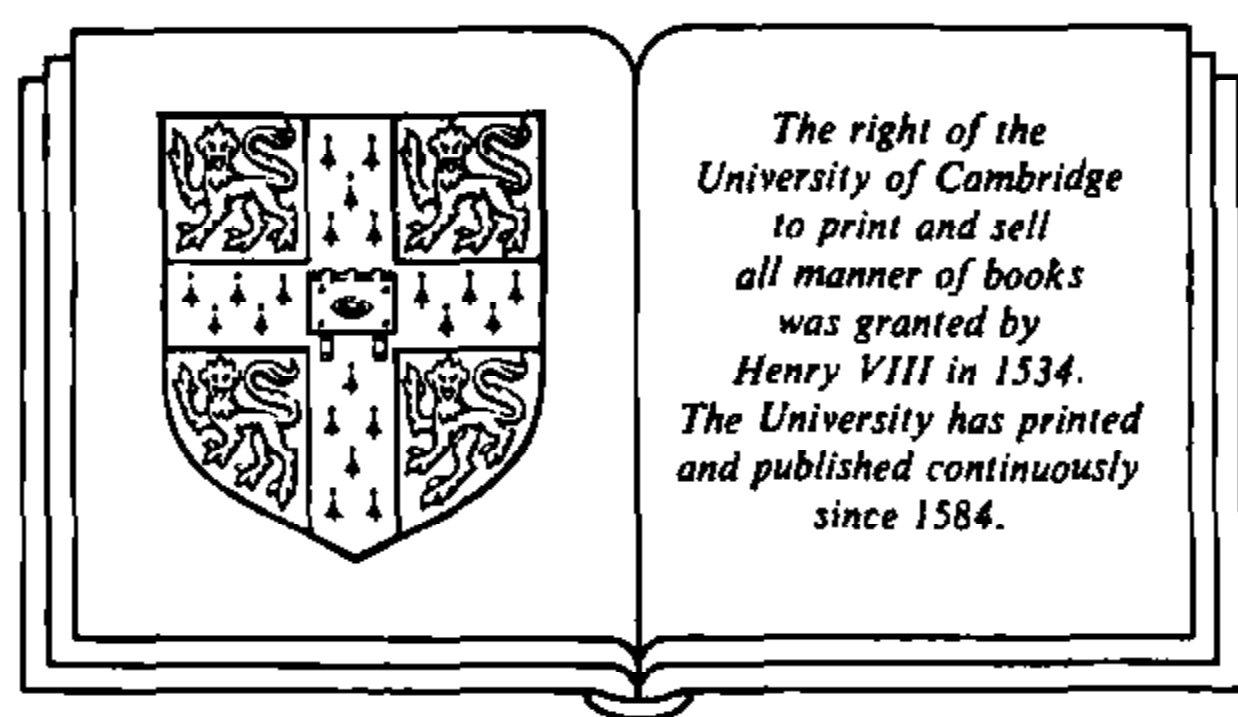
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TRANSFORMATIONAL SYNTAX

A STUDENT'S GUIDE TO
CHOMSKY'S EXTENDED STANDARD THEORY

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TRANSFORMATIONAL SYNTAX

A student's guide to Chomsky's Extended Standard Theory

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PREFACE

The aim of this book is to provide a clear, simple introduction to recent work in Syntax by Chomsky and his followers, for all those who find Chomsky unintelligible. In an obvious sense, it is an introduction to works like his *Essays on Form and Interpretation* (1977), 'Filters and Control' (1977, with H. Lasnik), 'On Wh-Movement' (1977), *Rules and Representations* (1980), 'On Binding' (1980), 'Markedness and Core Grammar' (1980), *Pisa Lectures* (1980) and 'On the representation of form and function' (1980). Setting yourself such a goal raises a number of questions. Let me try and answer them.

'Why concentrate on Chomsky's work,' you might ask, 'rather than including detailed discussion of alternative models such as those developed by Brame, Bresnan, Gazdar and others?' There are several answers to this question. One is that Chomsky is the name that everyone associates with TG, Chomsky is the only linguist you are ever likely to see on television, Chomsky is the one linguist whose work is widely known in neighbouring disciplines like Psychology and Philosophy, and Chomsky is the primary linguist that students want to know about. A second reason is that much of the work described here is of an extraordinary technical complexity: presenting this in a form in which it will be intelligible to beginners is in itself a major undertaking, and leaves no room for discussion of equally complex research by others.

'But why concentrate on Chomsky's recent work, instead of tracing the historical development of his work over the past three decades?' First, to concentrate on the past twenty-five years rather than the past five years would have meant curtailing discussion of more recent work to such an extent that either I would have had to omit any discussion of certain ideas, or I would have had to make

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the presentation much more dense, and therefore less readily intelligible. Secondly, the past five years has seen a major theoretical reorientation in aims, methods, terminology, argumentation and so forth – to such an extent that it is no longer clear that reading yesterday's Linguistics helps you understand today's Linguistics (on the contrary, many students find the historicist approach tiresome, and bewildering). In any case, there are already endless introductions to early work in TG on the market, including Bach, *Syntactic Theory* (1974), Akmajian and Heny, *Principles* (1975), Huddleston, *Introduction* (1976), Culicover, *Syntax* (1977), Baker, *Introduction* (1978), Jacobsen, *TG Grammar* (1978), and Perlmutter and Soames, *Argumentation* (1979) – why waste good ink writing another textbook that's years out of date before it's printed?

'But why not give a *critical evaluation* of Chomsky's recent work, at least?' Well, a critical evaluation of a theory presupposes that the reader understands the theory in the first place. But to suppose that anyone other than the very brightest PhD student could read 'On Binding' or the *Pisa Lectures* by himself and digest the ideas is naive in the extreme. What is needed first is a clear, simple *exposition* of the theory: the first stage in being able to criticise a theory is to be able to understand it! And what this book seeks to do is to develop in the reader a basic *understanding* of the views and ideas of Chomsky and his followers; the reader should then be able to go on and read for himself some of the works cited. Only after that does it make sense to talk about attempting to make a critical evaluation of the theory. And that would be the subject for another, very different kind of book.

I have designed the book to be used with a variety of different students for courses at a variety of different levels. For the beginning student, chapters 1–5 provide a basic introduction to TG syntax; for an intermediate course, chapters 3–9 would be useful; and for an advanced course on recent work, chapters 3 and 6–11 provide invaluable preparatory reading and practice material which should enable the student to go on to read the primary literature (i.e. the original source material). The text is sequenced in such a way that the student can 'stop' at any point beyond chapter 5, and still have covered a reasonably coherent set of ideas.

I should also say something about the Exercises at the end of each

chapter. These are an integral part of the text (i.e. it would be foolish to 'skip' them), and are of three types: (i) *reinforcement* exercises (which give the reader practice at applying the ideas discussed in the text); (ii) *advancement* exercises (which serve to introduce new concepts and terminology which will be presupposed in the rest of the text: these are marked by a prefixed single asterisk *); and (iii) *problem* exercises (which attempt to get the reader to look rather more critically at some of the assumptions, arguments and analyses given in the text; these are marked with a prefixed double asterisk **).

I'd like to thank a number of friends and colleagues for their encouragement, helpful discussion, critical comments and so on – especially Michael Anthony, Bob Borsley, Memo Cinque, Jacques Durand, Frank Heny, Giulio Lepschy, Peter Matthews, Frank Palmer, Deirdre Wilson and Nigel Vincent. Lack of time and energy has meant that I have been unable to take account of the more radical revisions that they proposed. Special thanks are due to the Press for agreeing to take the manuscript in its original mimeographed form, and for making an effort to publish it sooner than possible!

Finally, let me add that this book is dedicated to the person who did more than anyone to awaken my interest in language, and to persuade me that just maybe linguistic theory wasn't quite as pointless as it seemed at the time – Joe Cremona.

Andrew Radford
October 1980

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I

Goals

Why study language? For Chomsky, the answer is that language is a mirror of the mind – i.e. by detailed study of language, we might hope to reach a better understanding of how the human mind produces and processes language. As Chomsky himself remarks:

There are a number of questions that might lead one to undertake a study of language. Personally, I am primarily intrigued by the possibility of learning something, from the study of language, that will bring to light inherent properties of the human mind.

(Chomsky, *Language and Mind* (1972), p. 103)

Chomsky seeks to attain two parallel, interrelated goals in the study of language – namely to develop (i) a Theory of Language, and (ii) a Theory of Language Acquisition. The Theory of Language will concern itself with what are the defining characteristics of natural (i.e. human) languages, and the Theory of Language Acquisition with the question of how children acquire their native language(s). Of the two, the task (i) of developing a Theory of Language is – in Chomsky's view – logically prior to the task (ii) of developing a Theory of Language Acquisition, since only if we first know what language is can we develop theories about how it is acquired; moreover, we shall see shortly that a Theory of Language is an important subpart of the Theory of Language Acquisition that Chomsky seeks to develop.

So, the primary aim of Linguistics, for Chomsky, is to develop a Theory of Language. But what is it that such a theory seeks to characterise? The answer is that any adequate Theory of Language must provide answers to questions such as the following:

What is language?

What is it that you know when you know a language?

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What are the essential defining characteristics of natural languages which differentiate them from e.g. artificial languages like those used in Mathematics or Computing, or other forms of communication?

Do languages differ from each other in unpredictable ways, or do they all share certain common, universal properties?

But how do we attempt to develop a Theory of Language which will answer such questions? The first step is to formulate detailed descriptions (known technically as *grammars*) of particular languages (e.g. English): this is the study of *Particular Grammar*. The second step is to abstract from particular grammars common, universal properties that they all share: this is the study of *Universal Grammar* – i.e. the search for linguistic universals.

Consider first the study of Particular Grammar. What is a *grammar* of a particular language? Chomsky gives an essentially *mentalist* answer to this question: for him, a grammar is a *model* (= systematic description) of those linguistic abilities of the native speaker of a language which enable him to speak and understand his language fluently. These linguistic abilities, Chomsky terms the *competence* of the native speaker. Thus, *a grammar of a language is a model of the linguistic competence of the fluent native speaker of the language. Competence* (the fluent native speaker's knowledge of his language) is contrasted by Chomsky with *Performance* (what people actually say or understand by what someone else says on a given occasion): competence is 'the speaker–hearer's knowledge of his language', while performance is 'the actual use of language in concrete situations' (Chomsky, *Aspects* (1965), p. 4). Very often, performance is an imperfect reflection of competence: e.g. the fact that people make occasional 'slips of the tongue' in everyday conversation does not mean that they don't know their language, or don't have fluency (i.e. competence) in it. 'Slips of the tongue' and like phenomena are – for Chomsky – *performance errors*, attributable to a variety of performance factors like tiredness, boredom, drunkenness, drugs, external distractions, and so forth. Linguistics is – for Chomsky – primarily concerned with competence, since a Theory of Competence will be a subpart of an eventual Theory of Performance: that is, you have to understand what a native speaker knows about his language before you can study the effects of tiredness, drunkenness, etc. on this knowledge.

Chomsky distinguishes two types of competence: (i) *pragmatic competence*, and (ii) *grammatical competence* (see e.g. Chomsky, *Essays* (1977), p. 40). Pragmatics is concerned with the role played by nonlinguistic information such as background knowledge and personal beliefs in our use and interpretation of sentences. To take one of Chomsky's own examples (from *Essays* (1977), p. 40), suppose I have a friend who says to me 'Today was a disaster.' If I know (by way of background information) that he was giving a special lecture today, then on the basis of this background knowledge I infer that he probably means that his lecture went down very badly. It is the native speaker's *pragmatic competence* which enables him to bring into play nonlinguistic information in the interpretation of such sentences. By contrast, in the case of a sentence such as:

(1) He thinks that John is wrong

it is the native speaker's *grammatical competence* (his knowledge of the grammar of his language) which tells him that *he* cannot be interpreted as referring to the same person as *John* in (1). Chomsky's own work is almost exclusively concerned with the attempt to characterise *grammatical competence*: by contrast, his work in Pragmatics hitherto has been little more than anecdotal in nature.

Grammatical competence in turn subsumes three primary types of linguistic ability – *syntactic*, *semantic* and *phonological*. The principal syntactic ability which forms part of the native speaker's grammatical competence is the ability to combine words together to form grammatical sentences in his native language, and to know which sequences of words form grammatical or ungrammatical sentences in his language. For example, any native speaker of English would intuitively recognise (leaving aside for the moment differences of style or dialect) that all of the examples in (2) below are grammatical (i.e. syntactically well-formed) sentences in English:

- (2) (a) I gave back the car to him
 (b) I gave the car back to him
 (c) I gave him back the car
 (d) I gave him the car back

but that the following are ungrammatical as sentences of English:

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- (2) (e) *I gave the car to him back
(f) *I gave back him the car

(an asterisk in front of a sentence means that it is ungrammatical – i.e. syntactically ill-formed in some way; by convention, any sentence which does not have an asterisk in front of it is assumed to be grammatical).

However, there is – for Chomsky – a second aspect of the native speaker's syntactic competence which a grammar should characterise – namely the native speaker's intuitions about the *syntactic structure* of sentences in his language. For example, in a sentence like:

- (3) John likes very fast cars

any native speaker would agree that *very* modifies *fast* (and not *likes*), and that *very fast* modifies *cars* and not *John* – and so forth. Thus, the native speaker has two types of syntactic intuition: intuitions about well-formedness, and intuitions about structure. We should perhaps add that the word *intuition* here is used in a technical sense which has become standardised in Linguistics: by saying that a speaker has *intuitions* about sentence well-formedness, all we mean is that he has the ability to make *judgements* about whether or not a given sequence of words is grammatical in his native language.

Among the *semantic* abilities which form part of the native speaker's grammatical competence are his intuitions about the semantic well-formedness or ill-formedness of sentences: thus, any native speaker of English would agree that (4) (a) below is semantically well-formed, but that (4) (b) is semantically ill-formed (i.e. 'odd' in some way by virtue of its meaning):

- (4) (a) I thought Mary was ill, but it turned out that she wasn't
(b) ! I knew Mary was ill, but it turned out that she wasn't

(! in front of a sentence means that it is semantically ill-formed). A second type of semantic intuition which native speakers have about their language concerns semantic structure, and semantic relations: for example, any native speaker of English will tell you that *the fool* can be interpreted as *coreferential to* (i.e. referring to the same individual as) *Harry* in (5) (a) below, but not in (5) (b):

- (5) (a) I don't like Harry, because the fool hates Linguistics
 (b) Harry says that the fool hates Linguistics

Hence, intuitions about coreference relations in sentences are part of the set of intuitions we have about semantic relations in and between sentences.

Among the *phonological* abilities subsumed under grammatical competence are the native speaker's intuitions about the phonological well-formedness or ill-formedness of sentences in his language. All speakers of English would agree, for example, that (6) (a) below is phonologically well-formed, but that (6) (b) is phonologically ill-formed (the syllables receiving primary stress are italicised):

- (6) (a) *This* is a grammatical sentence
 (b) *This* is a grammatical sentence

A second type of phonological intuition which native speakers have in their language is intuitions about phonological structure: any English speaker intuitively feels, for example, that the sequence *black bird* can either be a single phonological word (*blackbird*, with primary stress on *black* = a species of bird, like thrush, robin, etc.), or two independent phonological words, each with its own primary stress (*black bird* = bird which is black, as opposed to *white bird*).

Overall, then, we see that grammatical competence subsumes two types of intuition: (i) intuitions about syntactic/semantic/phonological well- or ill-formedness; and (ii) intuitions about syntactic/semantic/phonological structure. Before we go any further, however, it is useful to clear up a number of problems which arise with the notion of *ill-formedness*. One of these is that it is important not to confuse the descriptive notion of *well-formedness* with the corresponding prescriptive notion of *correctness*. For example, there are many dialects of English in which sentences like:

- (7) Mine is bigger than what yours is

are perfectly grammatical, and for speakers of these dialects such sentences are perfectly well-formed. But at the same time, sentences like (7) are of a type stigmatised as 'incorrect', or 'bad grammar' by a certain self-styled socio-cultural elite (e.g. schoolmasters). This poses an apparent dilemma for the linguist: should

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he *describe* what people actually say, or should he attempt to *prescribe* what he or others think they ought to say? In other words, should Linguistics be *descriptive*, or *prescriptive*? In actual fact, it is hard to see how anyone could defend the *prescriptive* approach: in any other field of enquiry, it would be seen as patently absurd. What would we say of the sociologist who, instead of describing the way a given society is, sets about prescribing how he thinks it ought to be? And what would we think of the scientist who, regretting the unfortunate tendency for objects to fall downwards by gravity, instead proposes an alternative model in which everything is attracted upwards towards the sky, simply because he thinks things *ought* to be that way? No one these days would take any such enterprise seriously; and the same is true of Linguistics. Modern Linguistics is purely descriptive, not prescriptive.

A more serious problem that arises with Chomsky's conception of a Grammar as a model of the linguistic intuitions of the average native speaker of a given language concerns what to do about disagreements among native speakers about the well-formedness or structure of particular sentences. One of the abstractions that Chomsky makes in studying language is to assume that speech communities are homogeneous: i.e. to assume that all native speakers of a given language will have essentially the same well-formedness intuitions: as Chomsky himself says (*Aspects* (1965), p. 3): 'Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech community. . . .' But this is plainly not the case: all native speakers have to some extent their own individual way of speaking (or *idiolect*) which may not be exactly the same as that of any other member of the same speech community. There are, of course, larger linguistic groupings within society: speakers with a common geographical background may share a common *dialect*, while speakers from a common social background may share a common *sociolect*. We can illustrate the linguistic differences within a given speech community in terms of the examples in (8) below: each of these sentences would probably be accepted as well-formed by only a certain percentage of English speakers (hence the use of the % prefix):

- (8) (a) %Your car wants mending
(b) %That's to do tomorrow
(c) %I gave it her

- (d) %There's a man delivers vegetables in the village
- (e) %It was me what told her

The obvious question to ask is what the linguist is to do in such cases. The broad answer is that in general the problem of linguistic variation within a speech community is one which is more appropriately dealt with in a partially separate discipline (*Sociolinguistics*), and since it is not a problem which is essentially *syntactic* in nature, it is not the kind of problem which ought to be the primary focus of attention in the attempt to develop an adequate theory of *Syntax*. For practical purposes, most linguists describing a language of which they are native speakers rely on their own intuitions, and thus the grammar they devise is essentially a grammar of their own idiolect, which they assume is representative of the language as a whole.

An even more tricky problem which arises with the notion of *ill-formedness* concerns the attempt to identify in what way a given sentence which 'sounds odd' is ill-formed. Let's first draw a distinction between sentences which are 'pragmatically odd' in some way, and those which are 'linguistically ill-formed'. While the distinction may be clear enough in principle, it is often very hard in practice to decide which side of the dividing line a given sentence falls. For example, what is the status of sentences such as the following (taken from George Lakoff, 'Presupposition and relative well-formedness' (1971), p. 332):

- (9) (a) My uncle realises that I'm a lousy cook
- (b) My cat realises that I'm a lousy cook
- (c) My goldfish realises that I'm a lousy cook
- (d) My pet amoeba realises that I'm a lousy cook
- (e) My frying pan realises that I'm a lousy cook
- (f) My sincerity realises that I'm a lousy cook
- (g) My birth realises that I'm a lousy cook

Intuitively, most people would regard (9) (a) as perfectly well-formed, (9) (b) as slightly less natural, (9) (c) as a little eccentric, (9) (d) as implausible, (9) (e) as just plain daft, and (9) (f) and (g) as absolutely inconceivable. But what precisely is the nature of the oddity in the more unusual sentences? The answer is that the oddity seems to be largely *pragmatic* (i.e. nonlinguistic) in nature. Thus, whether or not you find expressions like *My goldfish thinks that . . .* well-formed depends on whether or not you believe that