

cally as other objects of the sentence (direct objects, indirect objects, etc.). However, morphologically and phonologically they have a very close relation to their host, like many morphemes.

The last part of Spencer's book addresses one of the most important questions in morphology: what is a word? One of the phenomena that makes the answer difficult is what has been called bracketing paradoxes (discussed in Ch. 10). This term refers to the cases where the bracketing imposed on a sequence according to the phonology, for instance, does not match the bracketing imposed by the morphology, the syntax or the semantics. A very familiar example of this sort is the term *atomic physicist*. Even though the suffix *-ist* is attached to the stem *physic*, the adjective *atomic* does not refer to *physicist* but only to the *physic* part (we are talking about a person who does atomic physics, not a physicist who is atomic). Finally the last chapter of the book (Ch. 11) addresses the concluding question: given all the facts discussed throughout the book, what place in the grammar should morphology occupy? This is a question that has not yet received a satisfactory answer and is still the subject of much debate. Spencer's book constitutes a long-needed summary of the most significant work that has been done in theoretical morphology in the last fifty years. In spite of very minor objections one can make to it (like the excess of emphasis on classification issues²), it is a very valuable piece of work for anybody interested in the field of morphology.

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2. Especially in his treatment of clitics, Spencer seems too worried about the status of certain elements as clitics or morphemes. He does not consider the possibility that these ambiguous elements might be the result of the interaction of different types of processes, in a fashion parallel to the way passives, for instance, are viewed in the generative framework.

ANDREW RADFORD, *Syntactic Theory and the Acquisition of English Syntax: The Nature of Early Child Grammars of English*. Oxford: Blackwell, 1990. viii + 311 pages.

Syntactic Theory and the Acquisition of English Syntax makes an important contribution to the study of first language acquisition. The main goal of the book is to analyse child speech within the Principles and Parameters framework and within a Maturation model of language acquisition. The Principles and Parameters model (Chomsky 1981, 1986a, 1986b, 1988), on the one hand, is a theory of language that explains crosslinguistic similarities by assuming that there is a core of universal principles (UG) common to all languages and a set of parameters, with a number of open values, that account for language variation. As far as the nature of these parameters is concerned, two major hypotheses have been put forward: one (Chomsky 1986a) that associates parameters with UG principles and another according to which parametric variation is connected with functional categories (Borer 1984, Chomsky 1988, Ouhalla 1991), where functional categories include the set of elements which in traditional typology have been referred to as *closed class*, that is, Determiners, Complementisers, Inflection (Tense and Agreement), Negation...

The Maturation model of language acquisition, on the other hand, claims that the different stages that all children go through are constrained by inherent maturational factors. In this respect, within the Maturation Hypothesis¹ two different proposals have been put forward: one (Felix (1984) and Borer and Wexler (1987)) that claims that the availability

1. This theory of language acquisition contrasts with the Continuity Hypothesis (Hyams (1987) and Weissenborn (1990) among others) according to which all UG principles and parameters (however not fixed) are present throughout the language acquisition process.

of UG principles is biologically determined and another (Guilfoyle and Noonan (1988), Radford (1990) and Tsimpli (1992)) which proposes that UG principles are available from the start of the language acquisition process and that maturational processes affect functional categories and their syntactic projections.

Radford's analysis is based on a wide range of data from a corpus of more than 100,000 spontaneous utterances and it demonstrates that the earliest structures produced by children (when at around 18 months they start combining words) are lexical-thematic, that is, they are characterised by the absence of functional categories.

The book is divided into ten chapters. The first chapter, *Aims and approaches*, sets out with an introduction to the ultimate goal of a language acquisition theory: namely, that of explaining how, when, and why children develop their initial grammars. With this goal in mind, the author goes on to provide an overview of the current methodology and theoretical framework. He points out the limitations of spontaneous language samples and examines the problem of establishing the productivity of structures.

In chapter 2, *Categorization in early child English*, Radford addresses the central claim of the book. He presents morphological and syntactic evidence to show that at about the age of 18-24 months children have developed a system of lexical categories: nouns, verbs, adjectives, and some prepositions. This stage in the development of children's speech is referred to as *lexical, categorial* (as opposed to the precategorial stage (0-18 months) where no categorization has taken place yet), or *prefunctional* (as opposed to the later functional stage (24-30 months) characterized by the emergence of functional categories).

The crucial distinction between functional and lexical categories is dealt with in chapter 3, *Lexical category systems in early child English*. Although the author discusses the morphological and nonthematic or c(ategorial)-selectional properties (see the review of Ouhalla's book in

this volume) that distinguish functional from lexical categories, he fails to mention the grammatical features associated with the former. Recent work on functional categories (Ouhalla 1991) stresses the importance of grammatical features -for example, the phi-features (person, number and gender) associated with AGR² - in determining movement processes and relations. The rest of the chapter is devoted to providing empirical evidence, mainly from pronominalisation, for the claim that once children have developed lexical word categories they have developed the corresponding phrasal categories as well.

Chapters 4, 5, 6, and 7 are largely concerned with substantiating the claim that functional categories are missing in the lexical stage. Radford gives a detailed presentation of data from imitative and spontaneous speech to show the absence of D(eterminers) (chapter 4: *Absence of a Determiner System in Early Child English*), C(omplementizers) (chapter 5: *Absence of a Complementizer System in Early Child English*), I(nflection) (chapter 6: *Absence of an inflection System in Early Child English*) and Case (chapter 7: *Absence of a Case System in Early Child English*). In chapter 7, he elaborates on the interrelation between the absence of Determiners, Inflection and Case: the claim that there is no case system operative in child grammars follows from the assumption that case is an intrinsic property of the Determiner Phrase and that nominative case is assigned by I (both being functional categories and hence missing in early grammars).

In chapter 8, *The grammar of missing arguments in early child English*, Radford discusses alternative analyses of missing arguments, the study of which has received a great deal of attention in the literature. In this sense, almost all modern work in syntactic theory recognizes that sentence structures involve "invisible" parts, that

2. Abbreviation for the agreement features in the INFLECTION category in a finite clause.

is, syntactic positions which are not fleshed out by words and which aid in the explanation of the relations between non-adjacent elements. The author argues first against Hyams' (1986, 1987) account of missing arguments as instances of pro (a null pronominal element found in governed positions³) it alternates with overt pronouns which occur in governed positions since they must be assigned Case), and then against De Haan and Tuijnman's (1988) analysis of missing arguments as variables (an empty category bound by a null topic phrase⁴). Radford finally explores the claim that missing arguments could be analyzed as null NPs (np). However, a very plausible analysis that he does not take into consideration is the structural realisation of missing arguments as PRO (a null element which can occur only in ungoverned positions), as suggested by Tsimpli (1992).

Chapter 8, *The overall structure of early child grammars of English*, contains a fairly detailed summary of all the previous chapters and examines the range of modules⁵ that are operative during the earliest stages of language acquisition.

The tenth and final chapter, *Explanations and implications*, seeks to explain why lexical-thematic systems should come into operation before functional non-thematic systems. He challenges the

Continuity Hypothesis and argues for a Maturation approach whereby functional-nonthematic structures come "on line" at a specific point of maturation. One issue that Radford does not fully discuss, however, is whether maturation only affects functional categories or whether it affects principles of UG as well.

Syntactic theory and the acquisition of English syntax provides the reader with helpful and comprehensive information concerning not only early child speech but also recent research on theoretical linguistics. This book is likely to stimulate investigations which will seek to test hypotheses about language acquisition in other languages.

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3. Government is a local relationship between elements (for example, a verb governs its object NP) that plays a central role in several of the subtheories of grammar. More precisely, a category governs another category if both these categories m-command each other, where an element is said to m-command all the elements contained inside its domain.

4. The topic phrase is generated in the topmost position and it is claimed to have referential properties which are derived from the discourse.

5. In the Principles and Parameters Theory it is suggested that the language system itself is modular in the sense that it consists of a number of different subsystems, each of which constrains a particular type of grammatical entity and construct.

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JOHN CLARK and COLIN YALLOP
Introduction to Phonetics and Phonology
 Oxford: Basil Blackwell, 1990.
 400 pages.

Phonetics and phonology are vast disciplines which include many different topics. Therefore, some degree of complexity, associated with any scientific field, is unavoidable when studying speech in general. Clark & Yallop's *An introduction to phonetics and phonology* achieves the aim of giving an introductory account of speech sciences, and succeeds in presenting a clear and concise description of both areas of study. In many aspects, this is an impressive book. Its main merit lies in its putting together in one book a vast range of different issues covered in phonetic and phonological theory.

The book starts with a short introductory chapter one which presents and outlines the main topics dealt with in the text. Chapter 2 deals with the organs of speech and their various functions. It begins with a very exhaustive description of the anatomy of speech production, paying particular attention to muscular action and the respiratory cycle. Much of the detail present in this chapter is reminiscent of Borden and Harris (1984). This part may be too comprehensive for the beginner student of phonetics, but gives an excellent overview to any-one with interests in speech anatomy. The whole chapter is centred on the production of laryngeal excitation, particularly, modal phonation, that is, normal vocal fold vibration.

Chapters 3 and 4 are concerned with some basic issues within phonetic theory. These include phonation modes, vowel and consonant articulation, manner and place of articulation, voice onset time, secondary articulation and coarticulation, syllabification, etc. It also describes the diversity of speech sounds to be found in languages around the world. This is done less systematically than in other