

Language Acquisition

SECOND LANGUAGE ACQUISITION

Series Editor: Professor David Singleton, *Trinity College, Dublin, Ireland*

This new series will bring together titles dealing with a variety of aspects of language acquisition and processing in situations where a language or languages other than the native language is involved. Second language will thus be interpreted in its broadest possible sense. The volumes included in the series will all in their different ways offer, on the one hand, exposition and discussion of empirical findings and, on the other, some degree of theoretical reflection. In this latter connection, no particular theoretical stance will be privileged in the series; nor will any relevant perspective – sociolinguistic, psycholinguistic, neurolinguistic, etc. – be deemed out of place. The intended readership of the series will be final-year undergraduates working on second language acquisition projects, postgraduate students involved in second language acquisition research, and researchers and teachers in general whose interests include a second language acquisition component.

Other Books in the Series

Portraits of the L2 User

Vivian Cook (ed.)

Learning to Request in a Second Language: A Study of Child Interlanguage

Pragmatics

Machiko Achiba

Effects of Second Language on the First

Vivian Cook (ed.)

Age and the Acquisition of English as a Foreign Language

María del Pilar García Mayo and María Luisa García Lecumberri (eds)

Fossilization in Adult Second Language Acquisition

ZhaoHong Han

Silence in Second Language Learning: A Psychoanalytic Reading

Colette A. Granger

Age, Accent and Experience in Second Language Acquisition

Alene Moyer

Studying Speaking to Inform Second Language Learning

Diana Boxer and Andrew D. Cohen (eds)

Focus on French as a Foreign Language: Multidisciplinary Approaches

Jean-Marc Dewaele (ed.)

Other Books of Interest

Audible Difference: ESL and Social Identity in Schools

Jennifer Miller

Bilingual Children's Language and Literacy Development

Roger Barnard and Ted Glynn (eds)

Developing in Two Languages: Korean Children in America

Sarah J. Shin

How Different Are We? Spoken Discourse in Intercultural Communication

Helen Fitzgerald

For more details of these or any other of our publications, please contact:

Multilingual Matters, Frankfurt Lodge, Clevedon Hall,

Victoria Road, Clevedon, BS21 7HH, England

<http://www.multilingual-matters.com>

SECOND LANGUAGE ACQUISITION 9

Series Editor: David Singleton, *Trinity College, Dublin, Ireland*

Language Acquisition: The Age Factor

2nd edition

David Singleton and Lisa Ryan

MULTILINGUAL MATTERS LTD

Clevedon • Buffalo • Toronto

**This book is dedicated to Mary Coward,
whose great courage in the face of recent adversity
totally belies her name.**

Library of Congress Cataloging in Publication Data

Singleton, D.M. (David Michael)

Language Acquisition: The Age Factor/David Singleton and Lisa Ryan, 2nd ed.

Second Language Acquisition: 9

Includes bibliographical references and index.

1. Language acquisition—Age factors. I. Ryan, Lisa. II. Title. III. Series.

P118.65.S56 2004

401'.93—dc22

2004002819

British Library Cataloguing in Publication Data

A catalogue entry for this book is available from the British Library.

ISBN 1-85359-758-9 (hbk)

ISBN 1-85359-757-0 (pbk)

Multilingual Matters Ltd

UK: Frankfurt Lodge, Clevedon Hall, Victoria Road, Clevedon BS21 7HH.

USA: UTP, 2250 Military Road, Tonawanda, NY 14150, USA.

Canada: UTP, 5201 Dufferin Street, North York, Ontario M3H 5T8, Canada.

Copyright © 2004 David Singleton and Lisa Ryan

All rights reserved. No part of this work may be reproduced in any form or by any means without permission in writing from the publisher.

Typeset by Archetype-IT Ltd (<http://www.archetype-it.com>).

Printed and bound in Great Britain by the Cromwell Press Ltd.

Contents

Foreword	vi
1 Introduction	1
2 Evidence of Speech Milestones.	6
3 The Critical Period Hypothesis: L1-related Evidence	31
4 The Critical Period Hypothesis: L2-related Evidence	61
5 Theoretical Perspectives	118
6 The L2 Educational Dimension	198
7 Concluding Remarks	226
Bibliography	229
Index	278

Foreword

This book started life as *CLCS Occasional Paper No. 3* – entitled *The Age Factor in Second Language Acquisition* – and the original aim of the first edition of the book, which appeared in 1989, was simply to update and extend the paper in question. However, the product which emerged was in fact new in most respects. It was significantly longer than its predecessor, differently structured and considerably broader in scope. In particular, although the principal focus of the volume was on second language aspects of the age factor question, the sections dealing with the first language aspects were greatly expanded. With regard to the present edition of the book, again this started out as an attempt to update the earlier material, but it has again ended up as in many ways a new creation. A second author, Lisa Ryan, was recruited to revise the first language dimensions of the discussion – especially Chapters 2 and 3 and the neurology-focused section of Chapter 5, which, in consequence, have been significantly re-shaped – and there has been so much research activity around the age factor in second language acquisition since 1989 that revision in this connection too has had to go a long way beyond the mere insertion of more recent references. On the other hand, the overall structure of the 1989 volume has been retained and broadly the same kinds of conclusions emerge from the discussion.

The purpose of the book also remains true to that of the 1989 edition. The volume seeks to provide an overview of research and thinking on age-related aspects of language acquisition which will be of service to anyone likely to be in need of such a resource – notably students of linguistics/applied linguistics undertaking projects in this area, researchers in adjacent areas seeking to contextualise their research questions, and educationalists concerned with language/languages in the curriculum. The book is not in a strict sense introductory. Readers coming to it with absolutely no prior experience of linguistics or language acquisition research will find the going hard in places. However, even readers in this category should – with a little perseverance – find the text accessible in all essential respects.

Our thanks are due to a number of institutions and individuals without whose support and assistance the book would never have appeared:

- to Trinity College Dublin for granting the first author a number of leaves of absence to pursue research into the age factor in language acquisition;

- to a number of universities which generously provided the first author with a base and facilities during the leaves of absence in question – notably the University of Southampton, Université Stendhal (Grenoble), the Adam Mickiewicz University (Poznań), the Jagiellonian University (Kraków), the University of Silesia and the Max Planck Institute for Psycholinguistics, Nijmegen;
- to the Speech & Language Therapy Department, the General Manager of Community Services Area 7 and other colleagues of the second author at the Northern Area Health Board for their support and encouragement;
- to the East Dorset Health Authority Library Services for permission to use the library of the Poole General Hospital Postgraduate Centre;
- to the staff of all the libraries we had occasion to use – those of the institutions mentioned above plus the library of Institiúid Teangeolaíochta Éireann – for their patience and ready help;
- to the Trinity College Dublin Arts/ESS Benefactions Fund, The Royal Irish Academy and the Polish Academy of Sciences for generous financial support;
- to a countless array of colleagues and students, who, through their support and encouragement, through their comments on the earlier edition and on papers which fed into the second edition, and/or by giving of their time on various occasions to discuss the relevant issues, have made invaluable contributions to the evolution of the book – in particular (in roughly chronological order) David Little, Sean Devitt, Chris Brumfit, Rose Maclaran, John Saeed, Louise Dabène, Christiane Bourgnon, Mike Long, Vivian Cook, Jennifer Ridley, Eric Kellerman, Janusz Arabski, Kenneth Hyltenstam, Suzanne Flynn, Jim Flege, Theo Bongaerts, Ellen Bialystok, Dawn Duffin, Christine Dimroth, Niclas Abrahamsson, Carmen Muñoz, Jasone Cenoz, Peter Skehan, Anna Cieślicka, Danuta Gabryś, Anna Nizegorodcew, Robert DeKeyser, Clive Perdue, Clothra Ní Cholmain, Paula Bradley, Max Hills, Susan Lawson and David Birdsong;
- to Eithne Healy for invaluable assistance in the preparation of the manuscript;
- and, last but by no means least, to everyone at Multilingual Matters, including the late Derrick Sharpe, who was a source of excellent guidance and unfailing encouragement during the preparation of the first edition.

We are all too conscious that, despite the best efforts of those who have given us the benefits of their insights and advice, the book has many weaknesses. For these, of course, we alone are responsible.

David Singleton
Lisa Ryan

Dublin, October 2003

Chapter 1

Introduction

The topic of this book is not only one of the few truly perennial issues in discussion of language acquisition¹, it is also one of the few truly popular issues. On the former point, the age factor has been a constantly recurring theme of language acquisition. Moreover, the connection between age and language development is not something which has only recently been commented on. It has cropped up in writings about language over many centuries. Two examples must stand for many. St Augustine, in his *Confessions*, uses language development as virtually a defining criterion of maturation:

Passing hence from infancy I came to boyhood, or rather it came to me, displacing infancy. For I was no longer a speechless infant but a speaking boy. (*Confessions*: 1.13)

Somewhat closer to our own times Montaigne, writing of the learning of classical languages, tells of 'a method by which they may be acquired more cheaply than they usually are and which was tried on myself' (*Essays*, 1.26). The method in question consisted in exposing him during the first few years of his life to no language other than Latin. The results, according to Montaigne, were excellent as far as his command of Latin went. The results of attempts to teach him Greek formally at a subsequent stage, on the other hand, are depicted as considerably less successful.

With regard to popular interest, everyday conversations about child language continually refer to implicit age norms. How often does one hear remarks like 'Talks very well for her age doesn't she?' or 'Nearly three and he can hardly put two words together!'? Folk wisdom also abounds when it comes to the role of age in second language (henceforth L2)² acquisition, as is evidenced by observations of the type: 'I could never learn German at my age' or 'Beginning French at secondary school is no good; kids need to get started when they're young and fresh'. As far as beliefs about the emergence of the first language (henceforth L1) are concerned, these are obviously based on the pooled experience of child-rearing. As for the age

factor in L2 learning, to the casual observer the differences between younger and older L2 learners appear perfectly clear:

... young children in suitable environments pick up a second language with little trouble, whereas adults seem to struggle ineffectively with a new language and to impose the phonology of their mother tongue on the new language. (Macnamara, 1973a: 63)

Scholarly attention to the part age plays in language acquisition has mainly focused on precisely the assumptions which underlie comments such as those cited above, namely (a) the idea that there are age ranges within which certain things should happen in normal L1 development, and (b) the idea that one's age is a major factor in how efficient one is as a language learner, and in particular as an L2 learner. Approaches to these assumptions have varied from sceptical scrutiny to more or less uncritical acceptance. In the first case the assumptions in question have been the subject of rigorous observation and experimentation; in the second case they have been treated as self-evidently accurate accounts of phenomena to be explained.

Scientific interest in this area has, as one would expect, both a theoretical and a practical dimension. Each of these is explored more fully in the chapters that follow. However, briefly, on the one hand, arguments relating to the age factor have been tied in to arguments for or against particular models of language acquisition and hence for or against particular conceptions of language. On the other hand, they have been deployed in the debate about language in education.

Probably the best known example of the theoretical use of age-related arguments is the linkage of the notion of such arguments to the 'innateness hypothesis', the idea that language acquisition is only possible because of an inborn 'language faculty'. The connection between the age question and this hypothesis is fairly straightforward. If there is an innate language faculty and language develops in a way similar to, say, a physical organ or bipedal locomotion (cf. e.g. Chomsky, 1978, 1988), one can expect to be able to identify age-related stages in such development and periods of particular readiness for such development. To the extent that such age-related phases are discoverable, they can be represented as supportive of the innateness hypothesis.

Nor does the matter rest there. The innateness hypothesis has further ramifications. If there is a faculty concerned specifically with language which is inborn, this not only sets language apart from behaviours which are acquired purely from the nurturing environment, but also suggests that language is an essential, perhaps defining, part of the human make-up, and renders very plausible the notion that language is peculiar to our species.

On a slightly different tack, if there is an innate language faculty, it must be constituted in such a way as to be able to cope with any human language to which it is exposed, and, conversely, all human languages must be amenable to its operations. This implies that human languages have or draw on a common core of properties – universals – which are at bottom biologically determined. Accordingly, evidence of an age factor in language acquisition can be seen as appertaining not only to the innateness hypothesis but also to the idea that the language faculty is unique, both within the range of human capacities and across species, and to the universalist conception of language (cf. e.g. Harris, 1980: 179; Smith & Wilson, 1979: 33).

To turn now to the more applied dimension of scholarly interest in the age question – the relating of the age question to language educational issues – the obvious example of this is the debate about L2s in the elementary curriculum. It is not so long since the wide supposition was that this debate was over, having been lost by the advocates of early L2 instruction some time in the 1970s. Stern (1983: 105) reports, for example, that American interest in foreign languages in the elementary school (FLES) had begun to wane by this time, while in Britain the evaluation of a large-scale primary school French project by Burstall *et al.* (1974) was widely construed as refuting the notion that an early start in a L2 conferred an advantage. However, the idea that the case was closed was premature. There were always researchers who did not accept the way in which Burstall *et al.*'s findings had been interpreted (see e.g. Buckby, 1976; Potter *et al.*, 1977), and the question continued to receive attention. For example, in 1978, Ekstrand was reporting on a revival of the discussion about English at grade 1 or 2 in Sweden, and ongoing controversy in Finland and Sweden about when to begin teaching the language of the host country to immigrants (Ekstrand, 1978; reprint: 136f; see also Ekstrand, 1985); in the 1980s the Italian government set in motion a national experiment in the early teaching of foreign languages (see e.g. Titone, 1985a, 1986a, 1986b); during the 1990s early L2 programmes were put in place and evaluated in France, Ireland and Scotland (see e.g. Audin *et al.*, 1998; Favard, 1993; Harris & Conway, 2003; Johnstone, 1996); and in Germany a decision was recently taken that from September 2003 a foreign language would henceforth be taught to all primary-school pupils from grade 3 at the latest, and that, on the basis of local determination, such foreign language teaching might commence in grade 1 and/or take the form of content teaching via the L2 (Niemeier, 2003).

One reason why early L2 instruction has remained such a live issue arises from the notion of a 'critical period' for language development – the notion that language acquisition is only fully possible if begun in the

childhood years. This idea, which is quite widespread in the community at large, undoubtedly underlies the pressure to introduce early L2 instruction which has been exerted on politicians – in Europe at least – by that portion of the population with children. Among linguists the idea of a critical period for language acquisition was in the past accepted for the most part without question. Thus Lenneberg's (1967) discussion of the critical period is much more an attempt to provide an explanation for its existence than actually to *demonstrate* its existence. Likewise, Corder's (1973) treatment of the topic (113ff.) is in the main focused on implications of the critical period rather than on the evidence relating to it (to which he devotes just one sentence). Although it is still true that for many linguists the critical period idea remains axiomatic, others conclude that the case for the existence of a critical period is not proven (see e.g. Clark & Clark, 1977: 520; Elliot, 1981: 27; Klein, 1986: 10; Marinova-Todd *et al.*, 2000: 27; Van Els *et al.*, 1984: 109); that, as far as L2 learning is concerned, older beginners in fact do better (see e.g. Burstall, 1975a; reprint: 17; Cook, 1978; reprint: 12); or that younger L2 beginners outperform adult beginners only in respect of oral skills (see e.g. Faerch *et al.*, 1984: 211; Scovel, 1988) or in the long run (see e.g. Krashen, 1982a: 43; Long, 1990).

The other major facet of the age question in receipt of scholarly attention, namely the notion of maturational 'milestones' in the emergence of speech in young children, is less controversial insofar as no one seriously disputes the proposition that in the normal development of vocal activity and early speech there is both a predictable sequence of events and, within certain limits, a predictable chronology. Nevertheless, even in this area there have long been divergences of view, notably with regard to the relationship between the very earliest vocalisations – 'cooing' and 'babbling' – and later speech. Thus Clark and Clark (1977: 389f.) refer to the division of opinion between the *continuity approach*, represented by, for example, Mowrer (1960), and the *discontinuity approach*, represented by, for example, Jakobson (1968). According to the former the development from early vocalisations to later speech is gradual and continuous, whereas according to the latter later speech is unrelated to early vocalisations. In fact, this debate leads us back to the Critical Period Hypothesis, or at least to that version of it which postulates a lower limit as well as an upper limit to language readiness. It is therefore in the context of a discussion of the evidence relating to the onset of the critical period that we shall return to the continuity-discontinuity question.

Given the amount of debate and uncertainty relating to the question of the age factor in language acquisition, there certainly seems to be room for a survey of the relevant research and arguments which goes beyond the article- or chapter-length treatment they usually receive. Just such a survey

is attempted in the present work, which sets out to explore impartially the pertinent data, proposals and speculations in all their diversity. Clearly, there are limits to the extent to which even a book-length review can be exhaustive. However, all the points touched on in the foregoing are addressed in subsequent chapters. Chapter 2 examines the evidence relating to speech milestones; Chapter 3 reviews L1-related evidence appertaining to the Critical Period Hypothesis; Chapter 4 looks at L2 evidence of an optimum age for language learning; Chapter 5 outlines and appraises the various explanations that have been offered for the evidence of an age-related factor in language acquisition; and Chapter 6 explores two major language educational issues that are linked to the age question: the question of L2 instruction at elementary level and that of L2s for older adult learners. The concluding remarks in Chapter 7 briefly recapitulate the points emerging from Chapters 2–6, and indicate where, in particular, further research is needed.

Notes

1. *Language acquisition* is not here distinguished from *language learning* (cf. Krashen, 1981a, 1981b, 1982a, 1982b, 1985), both expressions being used throughout the book, unless context indicates otherwise, in a comprehensive sense.
2. *Second language* (L2) refers here and throughout to any language being learned other than the first language.

Chapter 2

Evidence of Speech Milestones

Introductory

The investigation of the development of language in infants and children has a long history. Leopold (1948) states (reprint, pp. 2f.) that the 'exact study of child language began in Germany in the middle of the nineteenth century under the impetus of the philosophy of Herbart', but also mentions 'forerunners' working earlier in that century and indeed at the end of the 18th century (Tiedemann, 1787). Accordingly, we have in this area a database of diary studies which extends back some 200 years (cf. Ingram, 1989), although there is, it has to be said, some variation in the quality of the early data collected up to about the middle of the 20th century (see e.g. Leopold's comments, 1948; reprint: *lf.*).

Research conducted during the early part of the twentieth century tended to focus on small groups of individual children in an attempt to establish developmental norms for acquisition, and tended not to be undertaken by professional linguists. The data emerging from such studies will be examined in the sections that follow. From the late 1950s onwards language acquisition became a very active research topic in linguistics because of the influence of the writings of Noam Chomsky (e.g. 1959, 1965) and the excitement aroused by his claims regarding universal aspects of language acquisition and his postulation of an innate mechanism for language development (commonly referred to as the Language Acquisition Device or LAD) as one dimension of a self-contained language faculty or module.

Within psychology too, language acquisition had by the second half of the 20th century become a much-researched topic. The initial emphasis in this case was on the centrality of cognition in the acquisition process, an approach inspired by the work of Jean Piaget (1926), who claimed that language acquisition could be accounted for in terms of general cognitive developmental processes. Within a few years, social explanations for language acquisition gained prominence, with researchers such as Bruner (1975) and Snow (1979) suggesting that the foundations of all aspects of

language lay in the social interaction between infants and their caregivers. According to this 'social-interactionist' perspective, all aspects of language, including syntactic categories and rules, are discovered in the formats of parent-child interaction and/or are derived from the specialised linguistic input provided by the caregiver. Productive as the cognitive and social-interactionist accounts of language development were in respect of research generation, they were seen by researchers such as Cromer (1988) and Shatz (1982) as having rather limited explanatory power as far as both the detail and the overall phenomenon of language acquisition was concerned.

Partly owing to the criticisms levelled at the aforementioned cognitive and social-interactionist approaches, the Chomskyan position that language is encapsulated in a discrete innate module gained further credence as a topic for empirical investigation. Advances in linguistic theory, particularly the Government and Binding Framework and Principles and Parameters Theory (Chomsky, 1981), triggered a considerable amount of research based on linguistic approaches to acquisition (see, e.g. Goodluck, 1991; Pinker, 1989; Radford, 1990). Linguists and psycholinguists embarked on a search for the universals which were assumed to characterise the language acquisition process for all children and all languages.

Most textbook accounts of language acquisition describe a general course of L1 development, characterised by a stable and readily identifiable sequence of stages. This course of development is portrayed as proceeding from first words near the first birthday to brief phrases about six months later and then on to more elaborated sentences in the third year. (cf. Ingram, 1989). Health professionals have been eager to make use of such notions of common sequences and stages because disorders of higher cognitive functions in toddlers and preschoolers often initially manifest themselves as language delays/disorders (Tuchman *et al.*, 1991). However, not all research has been keen to associate age norms with these stages, and researchers have frequently taken refuge in statements like: 'the rate of progression will vary radically among children' (Brown, 1973: 408). Crystal *et al.* (1976) treat such caution somewhat briskly, arguing that age norms are an indispensable tool for those involved in the assessment of child language delays/disorders, and that, in any case, to reject the notion of chronological norms would be absurd.

All of us have clear intuitions about norms of fluency and expressiveness in young children. We are aware that some children are 'very advanced for their age' and that others are not very talkative. In the light of this, it is likely that the emphasis on rate variability in the literature is at least partly due to analysis so far having been restricted to