Multilingual Aspects of Fluency Disorders

COMMUNICATION DISORDERS ACROSS LANGUAGES
Series Editors: Dr Nicole Müller and Dr Martin Ball, *University of Louisiana at Lafayette, USA*

While the majority of work in communication disorders has focused on English, there has been a growing trend in recent years for the publication of information on languages other than English. However, much of this is scattered through a large number of journals in the field of speech pathology/communication disorders, and therefore, not always readily available to the practitioner, researcher and student. It is the aim of this series to bring together into book form surveys of existing studies on specific languages, together with new materials for the language(s) in question. We also envisage a series of companion volumes dedicated to issues related to the cross-linguistic study of communication disorders. The series will not include English (as so much work is readily available), but will cover a wide number of other languages (usually separately, though sometimes two or more similar languages may be grouped together where warranted by the amount of published work currently available). We envisage being able to solicit volumes on languages such as Norwegian, Swedish, Finnish, German, Dutch, French, Italian, Spanish, Russian, Croatian, Japanese, Cantonese, Mandarin, Thai, North Indian languages in the UK context, Celtic languages, Arabic and Hebrew among others.

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Preface

Recent years have seen considerable advances in what has been learned about stuttering. This persuaded Anne Smith in 2008 to propose the following statement on the British Stammering Association's website:

> Stuttering is a neurodevelopmental disorder involving many different brain systems active for speech – including language, motor, and emotional networks. Each infant is born with a genetic makeup that contributes to his or her probability of stuttering, however whether stuttering will develop depends upon experience. To learn to speak fluently, a child's brain must develop many different neural circuits, and these circuits must interact in very precise and rapid ways. *Stuttering emerges in childhood as a symptom that the brain's neural circuits for speech are not being wired normally.* For this reason, early intervention is critical, because by shaping the child's experience, we can affect the ongoing wiring process in the child's rapidly developing brain. The longer the stuttering symptoms persist in early childhood, the more difficult it is for us to change the brain's wiring, and stuttering becomes a chronic, usually lifelong problem.

It can be seen in this definition that language is one of the prominent, but not the only aspect involved in stuttering.

In this quotation, Smith uses the word 'involving', perhaps as a way of avoiding having to be specific about the role language and the other factors play. Is a language deficit a factor necessary for stuttering to start, is it one of many mutually exclusive causes, does a child who starts to stutter operate within the margins of 'fluent speech' but the pressures of producing language (at language, motor and emotional levels) occasionally tip the child into bouts of non-fluency that can become established as incipient and later chronic stuttering? This small selection of the many questions that might be raised and the plurality of answers that could be given to each of them lead to a multiplicity of informal and formal theories about how stuttering should be explained.

Smith goes on to highlight the fact that a child's genetic endowment influences risk for stuttering and hints at the way in which this might affect developing neural circuits. She finishes off by highlighting her view that catching stuttering early and intervening are advisable. This makes accurate early diagnosis important. Once that is done, early interventions can be tried and their efficacy assessed.

Both the editors have a particular interest in language diversity and stuttering and they were honoured to be asked by the series editors (Nicole Müller and Martin Ball) to edit a collection of papers about multilingualism and fluency disorders. This led to the chapters in this book that focus mainly on language factors. Motor and emotional factors that Smith included in her definition are not discussed in detail in most chapters. This should not be taken to indicate that these are less important than language, it is merely a reflection of the topic of this volume.

The chapters are organized in three parts. The first is about procedures, methods and findings for studying language and its disorders. We were delighted that two authorities on multilingualism and child language (De Houwer and Mennen) agreed to write chapters highlighting different perspectives about bilingualism and language development. The chapters take psycholinguistic and linguistic approaches that tend to reflect cognitive and phonological processes respectively. Dworzynski was the lead author in a recent seminal paper that used twin methodology to estimate heritability of stuttering and she is able to talk informatively about genetics and methodology more generally. In her chapter, she describes the current state of the art on genetics and language, detailing not only work on stuttering, but also specific language impairment and speech disorder in a classic and well-studied family with a genetic speech disorder (the KE family). She explains the methods involved in this work, highlights how the link between genetics and brain structures have been mapped in the KE family (a step Smith's definition indicates will be necessary) and warns of some of the pitfalls in interpreting the link between genes, behaviour and CNS mechanisms. Our understanding of brain processes involved in language and its disorders has accelerated since scanning technologies have been available for research purposes. The two authors of Chapter 4 are authorities in the use of scanning data to document how the brain operates during stuttering (Watkins) and in bilinguals (Klein). They review the methods and procedures used in these areas. They point out that the regions of the brain that operate differently in stuttering and bilingualism correspond and consider ways in which this might affect risk for stuttering.

Part 2 addresses how language structure affects stuttering. The chapter by Howell and Rusbridge has two main aims. It attempts to: (1) show the state of our current knowledge about the pattern of stuttering in English; and (2) highlight some of the differences in language structure between English and the other languages of the world. Obviously these are mammoth tasks and fraught with difficulties. With respect to the first aim, the work is reviewed from a particular point of view (authors of other chapters offer different perspectives). With regard to the second aim, only the major considerations are highlighted, specifically those which might have relevance to stuttering and some of the main online resources that

will facilitate cross-linguistic research are indicated. In some ways the role undertaken with respect to the second aim might have been more appropriate for Part 1. Chapters follow that examine Japanese, Spanish, Portuguese and Farsi (as well as other languages spoken in Iran). Some of these languages have markedly different structure to English and offer a testbed about which factors are and are not universal which will influence future accounts of stuttering. The authors of some of these chapters are leading authorities in their own country whose work is not known about in the West. The last chapter in this part is not about language per se. It concerns animism, which is widespread in Africa, and how this affects beliefs about stuttering in the family and at large. The picture painted about approaches to treatment offer a salutary lesson about how the introduction of new languages and cultures through colonial influences has not impacted at all levels of society.

Part 3 examines stuttering in bilingual speakers. Although stuttering and bilingualism have implications for theory (as seen in the first two chapters in Part 1, Van Borsel's review in this part, the proposal in Lim and Lincoln's, and Tsai *et al*.'s chapters), the main topic that most of the chapters address is about treatment of stuttering in bilingual speakers. One of the main topics in the work reviewed in Part 2 was how stuttering should be defined and this has an effect on many aspects of stuttering (theories of how language affects stuttering, as well as applied aspects like diagnosis and treatment). This topic is thrown into prominent relief by the chapters in this part where alternative symptoms were used to classify children as stutterers. This topic and the related issue of language features and symptoms of stuttering seen at different ages is returned to in the final chapter (Howell and Van Borsel). Although there is a diversity of perspectives about how language features and stuttering symptoms link together, everyone in the field is in agreement about their importance. More attention to the role of symptom specification for assessing fluency in bilinguals and their age-dependency would be useful for research into bilingualism in general and its impact on stuttering in particular.

It has been our pleasure working with the authors of these chapters, the series editors and the publishing staff. We hope that the topic of this volume will be revisited in a few years time to see which of the issues have been resolved, what new ones have been raised and how this has advanced our understanding of fluency disorders and language diversity.

Peter Howell and John Van Borsel
July 2010

Part 1

Procedures, Methods and Findings for Language and Its Disorders

Chapter 1

The Speech of Fluent Child Bilinguals

ANNICK DE HOUWER

Summary

This chapter discusses preliterate bilingual children's language development and issues of fluency. In doing so, it distinguishes between children with bilingual input from birth (Bilingual First Language Acquisition; BFLA) and children who added a second language to a first (Early Second Language Acquisition; ESLA). While many patterns of language development are similar for both these kinds of bilingual children, others are quite different. It is emphasized that an assessment of young bilingual children's language behavior needs to take into account the length of time of exposure to each language and children's levels of production proficiency in each language. These can vary greatly amongst bilingual children and are crucial in helping to determine whether any disfluencies are likely to be developmental in nature or not.

It is established that so far, there is no evidence for the claim that early bilingualism may be a cause of abnormal disfluencies. Rather than disfluent, the speech of young bilinguals is generally quite fluent. Disfluencies that do appear in bilingual children show the same patterns as have been identified in young monolinguals.

1 Introduction

In 1937, the influential French psychoanalyst and linguist Edouard Pichon published a book on stuttering with a speech therapist (Pichon & Borel-Maisonny, 1937) in which they claimed that early child bilingualism was a risk factor for stuttering. Pichon and Borel-Maisonny proposed that having to choose a word from the proper language amongst two alternatives each from a different language slowed down the speech production process and made it much more laborious and difficult, resulting in a higher chance of stuttering. In the same year, Travis, Johnson and Shover claimed to have shown a correlation between bilingualism and stuttering in nearly 5000 school children ranging from 4 to 17 years of age. Lebrun and Paradis (1984) criticized this work for failing to point out that one group of monolinguals in the Travis *et al.* (1937) study (the so-called 'Black monolinguals') presented proportionally more stutterers than the 'White or Oriental bilinguals' or 'White or Oriental multilinguals'. Lebrun and