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First-language decline in healthy aging: implications for attrition in bilingualism

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Abstract

Studies of language attrition have focused on the decline observed in individuals' first-language (L1) or second language (L2) in the context of bilingualism. L1 decline has also been extensively studied in monolingual adults in the context of healthy aging. One language domain that has been found to decline with age is lexical retrieval. This paper focuses on longitudinal and cross-sectional studies of healthy aging, which show that older adults, as compared to younger adults, demonstrate greater difficulty in performing naming tasks as well as accelerated decline in performance over time. Relevant findings of age-related decline in word retrieval and theories that have been proposed to account for it are summarized and their relations to the patterns and theories of lexical attrition reported for bilingual speakers are discussed. It is concluded that despite fundamental differences between these two circumstances of attrition, applying methods and theories from one study area to the other can be beneficial for understanding processes of language attrition.

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1. Introduction

Language loss has been studied from several different perspectives. Linguists, sociolinguists, neurolinguists, and psycholinguists study patterns of language loss in various populations including aphasia, dementia, healthy aging, and bilingual and multilingual speakers. The different fields often employ different tasks to measure language decline and even use different terms to characterize the phenomenon; for example, the term *language attrition* has been used almost exclusively in the study of

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language loss in the context of bilingualism. It has been suggested that certain components of language are more vulnerable to change than others (Lambert & Freed, 1982; Seliger & Vago, 1991); those components can then be expected to be similarly affected across different populations and circumstances. While aspects of first-language attrition in the context of bilingualism have been compared to certain aspects of language acquisition (Berko-Gleason, 1982), few attempts have been made to compare such processes to those observed in the normal course of language decline across the adult life span (De Bot & Weltens, 1991). Yet the study of healthy aging has revealed specific areas of decline and the tasks that have been employed to detect these may prove useful in the study of bilingual language attrition. Moreover, it is conceivable that similar mechanisms underlie the different manifestations of language decline in different populations, in which case the theories that have been developed to account for age-related language decline should apply to other processes of language loss, such as the ones found in bilinguals. It may be useful, then, to consider patterns of language loss across these two populations, bilingual attriters and monolingual (healthy) older adults, with the goal of identifying common processes and their causes.

This paper is a first step toward that goal. I begin by summarizing prominent findings concerning the language deficits that have been reported to accompany healthy aging, particularly those of lexical retrieval during production, and ask how they may differ from patterns of lexical attrition that have been found in the context of bilingualism. I then briefly review current theories that have been proposed to account for age-related language changes, discuss how these theories may differ from those proposed to account for language attrition in bilingualism, and explore common trends as well as benefits that may be gained by applying methods and approaches from these two fields of study.

2. Lexical retrieval during word production in healthy aging

The study of changes in cognitive abilities that accompany aging has yielded evidence of age-related changes in a number of cognitive domains (e.g. memory, attention), but great variability in the patterns and degrees of decline has been reported (Band, Riddernikhof, & Segalowitz, 2002; Light & Burke, 1988; Lovelace, 1990; Salthouse, 1985a). In the study of memory, for example, age-related differences have been reported on tasks that measure working-memory capacity but not on tasks that measure short-term memory capacity or forgetting rate (Bäckman, Small, & Wahlin, 2001; Hartley, 1992; Prull, Gabrielli, & Bunge, 2000). Variability has also been noted in the results of studies that focused on language skills. Several studies of language in the elderly have concluded that at least some language abilities (such as vocabulary, syntax) remain intact (or even improve) across the adult lifespan (Béland & Lecours, 1990; Botwinick, 1977; LaBarge, Edwards, & Knesevich, 1986; Obler & Albert, 1984; Wingfield & Stine-Morrow, 2000), however, recent studies have provided converging evidence that certain language skills decline as individuals grow older. Two of the main areas that research identifies as problematic for older individuals are lexical retrieval during word production (Albert, Heller, & Milberg, 1988; Ardila & Rosselli, 1989; Au et al., 1995; Barresi, Nicholas, Connor, Obler, & Albert, 2000; Borod, Goodglass, & Kaplan, 1980; Bowles, Obler, & Albert, 1987; Burke, MacKay, Worthley, &

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