The use of two or more languages is common in most places in the world. Yet, until recently, bilingualism was considered to be a complicating factor for language processing, cognition, and the brain. In the past 20 years, there has been an upsurge of research that examines the cognitive and neural bases of second language learning and bilingualism and the resulting consequences for cognition and for brain structure and function over the lifespan. Contrary to the view that bilingualism adds complication to the language system, the new research demonstrates that all languages that are known and used become part of the same language system. A critical insight is that bilingualism provides a tool for examining aspects of the cognitive architecture that are otherwise obscured by the skill associated with native language performance in monolingual speakers. In this context, variation in language experience becomes a critical tool for investigating the constraints and plasticity associated with language learning across the lifespan. In this talk, I illustrate this approach to language processing and consider the consequences that bilingualism holds for cognition and the neural networks that support it more generally.