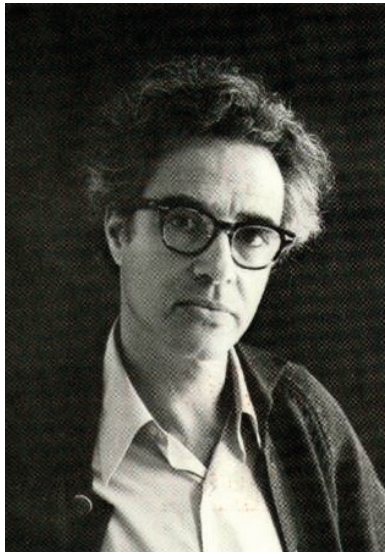


Lives in language



Patrick C. Trettenbrein takes a brief look at the life and ground-breaking work of one of the co-founders of biolinguistics, that is the study of the biological foundations of the human capacity for language.

Eric Heinz Lenneberg (1921–1975)

For most of its existence linguistics was preoccupied with studying different languages, first mostly in Europe and later around the world. To this day, the study of linguistic variation is still a major branch of linguistic inquiry, yet the 1950s brought about a radical change in perspective that has led to a turnover in linguistics at large and to the installation of a new outlook on the study of language. This new outlook turned from the study of different languages to the study of the human capacity for language. The life of Eric Heinz Lenneberg, born in 1921 in Germany and exiled to Brazil during the early days of the Nazi era in 1933, is closely

connected to this turnover and the inception of a new approach to the study of language – an approach now known as biolinguistics.

Lenneberg attended grammar school in Düsseldorf, Germany before, being Jewish, his family had to flee from the Nazis. He lived in Brazil until 1945, when he moved to the United States and studied at the University of Chicago. After receiving his bachelor's degree he remained there to study linguistics and in 1956 received his PhD in linguistics and psychology from Harvard. But Lenneberg was not done with his education yet and continued to study neuroscience at Harvard Medical School. This sketch of his education already indicates why Lenneberg, together with fellow Harvard

students Moris Halle and Noam Chomsky, was uniquely suited to co-found what would later become biolinguistics. Together, the three of them would spearhead the cognitive revolution in linguistics and psychology by adopting a biological approach to the study of the human language capacity.

In 1967, Lenneberg published his monumental book *Biological Foundations of Language*, widely considered, alongside Chomsky's *Syntactic Structures*, one of the founding documents of biolinguistics. The foreword of Lenneberg's book, just like this article, begins by saying that "the study of language is pertinent to many fields of inquiry". Yet, unlike Chomsky, who focused on the formal nature of natural language,

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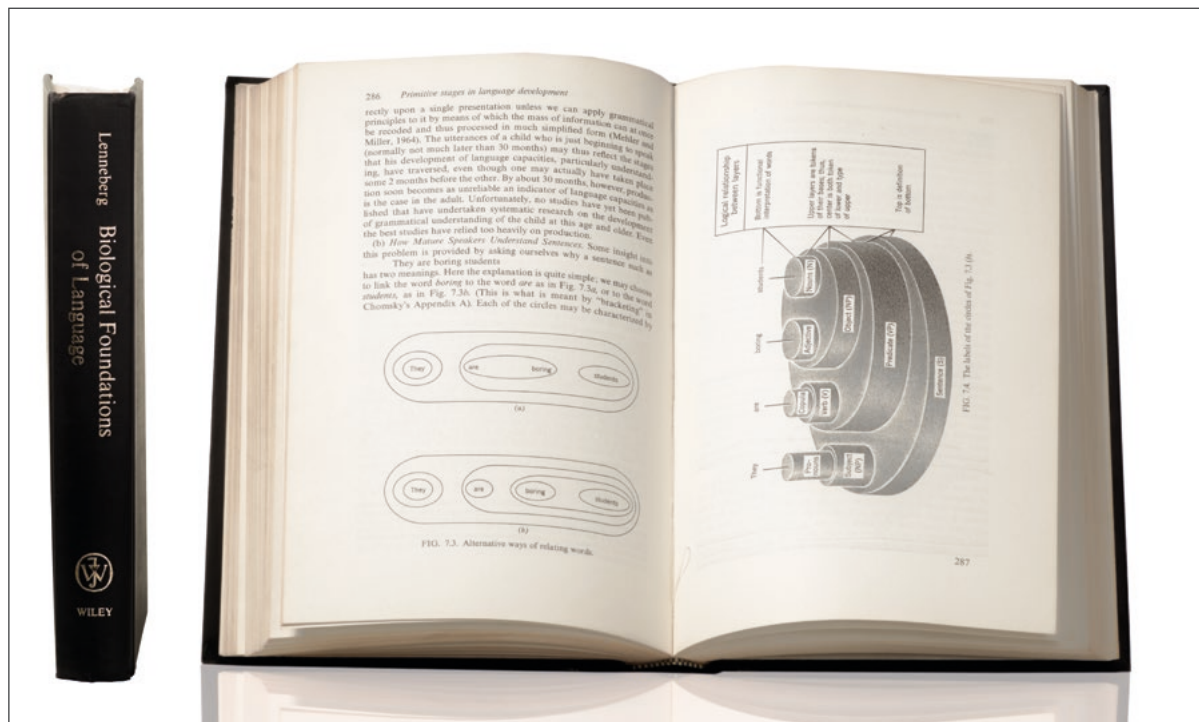
Lenneberg was interested in the biological facts about language and its development. At the time, detailed studies of language acquisition in children had not been carried out, but Lenneberg could not help noticing the striking uniformity and regularity of the process, quite independent of the particulars of different languages and even in the presence of severe sensory impairments. From a biologist’s point of view, these are indications that the processes by which a particular trait develops in an individual are rooted in the biological nature of the species, rather than being a cultural or technological achievement.

In the 1950s, Chomsky had famously debunked the behaviourist outlook on language and language acquisition advocated by the psychologist Burrhus F. Skinner in his book *Verbal Behavior*. Strikingly, Chomsky had achieved this in a book review on the basis of formal argument alone. About a decade later, in the 1960s, *Biological Foundations*

of Language constituted Eric Lenneberg’s monumental attempt at providing biological plausibility for the much more nativist outlook on language, language acquisition and learning processes, an outlook that resulted from the formal arguments of Chomsky and other cognitive scientists. However, it should be noted that Lenneberg had never intended his book to be a textbook or simply a survey of the literature at the time.

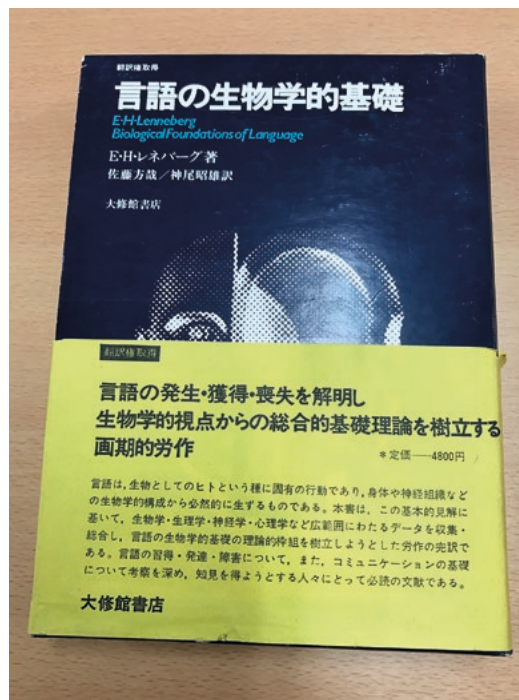
As is evident from a number of Lenneberg’s publications prior to *Biological Foundations of Language*, his vision had always been to write what he himself called a “theoretical treatise” detailing his attempt at a biological theory of language. Consequently, the book includes reviews of the literature on a variety of biolinguistic issues such as the then still very limited knowledge about the development of language abilities in normally developing and disabled children, the possible neural basis of language

Biological Foundations of Language.



processing, the possibility of studying language abilities from the point of view of genetics, and the question of how something as peculiar as the human capacity for language could have evolved. These discussions served as the basis for the book's final chapter, in which Lenneberg outlined his attempt at a biological theory of language. Most significantly, while some additions or modifications might be required here and there, his theory remains accurate to this day. One of the lessons from this final chapter also remains prominent: everyone who has taken an Introduction to Linguistics course at some point in their life will remember the name Lenneberg and associate it with the idea of there being a critical period for language acquisition.

While it is true that *Biological Foundations of Language* constitutes a major achievement and a large part of Lenneberg's legacy, his work was not limited to this single book. He held appointments at a number of major universities in the United States and lectured all over the world. He organised workshops in cooperation with UNESCO and the Max Planck Society in Germany, and published volumes on a variety of issues in the study of mind, brain, and language. Lenneberg investigated the idea of linguistic relativity in the context of colour perception, along with other things including a case study of language development in a child with congenital disability for the acquisition of motor speech skills who learned to comprehend language even in the total absence of articulation. He was interested in embryology, neuroanatomy, motor control and evolution, to name just a few of his spheres of interest. Of course, he did not carry



out research in all these fields himself, but he tried to keep up with the literature and latest developments in all of them and sent graduate students off to work on questions and ideas that he himself did not have time to pursue in more detail.

It therefore seems accurate to say that Lenneberg's broad interests were one of the reasons he was uniquely suited to write a ground-breaking book such as *Biological Foundations of Language* that, even 50 years later, is worth reading. Of course, the biological study of the human language capacity has progressed significantly since then, so one could now hardly use Lenneberg's literature review in the book for teaching a class on the subject matter. Lenneberg could not have dreamt of most of the technological innovations that have revolutionised genetics and neuroscience since then. Nevertheless, there can be no doubt that his book is a true classic, and the general framework he set up remains accurate. The 50-year anniversary of its publication in 2017 provided an opportunity

to revisit this classic, and the inclined reader will be pleasantly surprised by how accurate most of Lenneberg's analyses and predictions still are. ¶

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Find out more

Books

Eric Heinz Lenneberg (1967) *Biological Foundations of Language*, Wiley.

Journal

The Journal of Biolinguistics has published a special issue celebrating the anniversary of *Biological Foundations of Language* at the end of 2017, including contributions from leading scholars from a wide range of the cognitive sciences who revisit, update, and try to expand on Lenneberg's foundational ideas. For details, see biolinguistics.eu.