Speech and Brain Mechanisms (Princeton Legacy Library)

Wilder Penfield, Lamar Roberts
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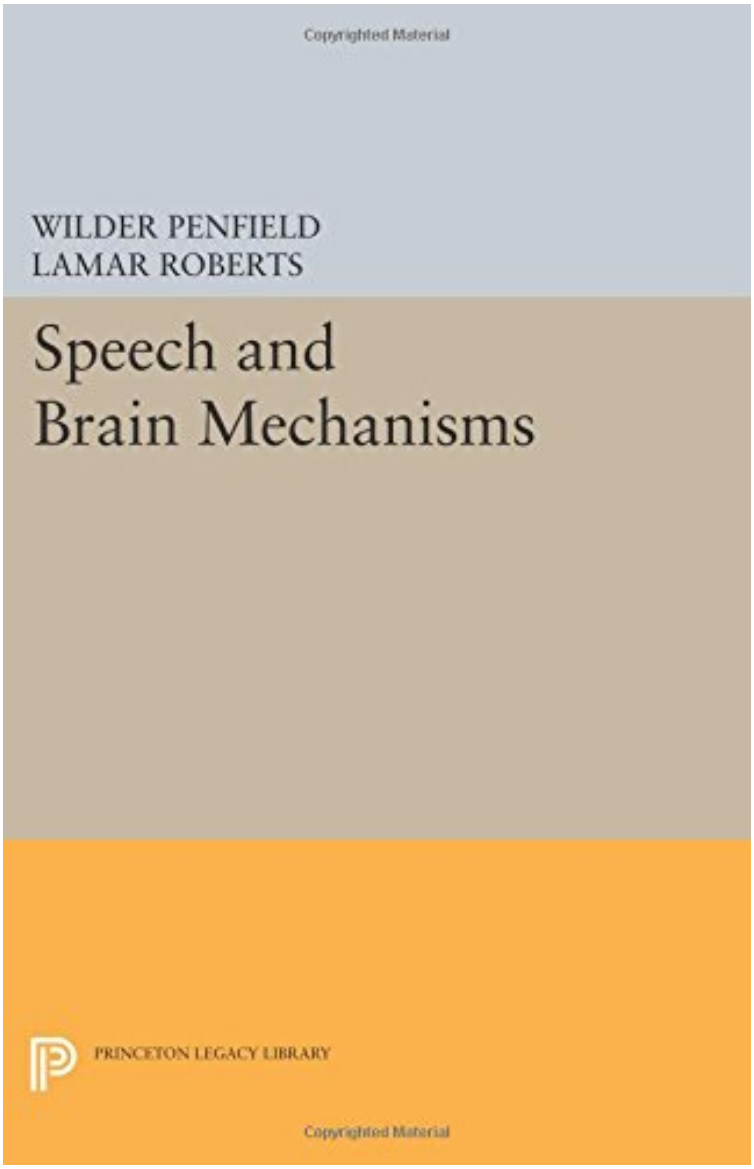

#5325576 in Books Penfield Wilder 2014-07-14 2014-07-14Original language:EnglishPDF # 1 9.50 x .68 x 6.13l, .94 #File Name: 0691615098302 pagesSpeech and Brain Mechanisms | File size: 16.Mb

Wilder Penfield, Lamar Roberts : Speech and Brain Mechanisms (Princeton Legacy Library) before purchasing it in order to gage whether or not it would be worth my time, and all praised Speech and Brain Mechanisms (Princeton Legacy Library):

3 of 3 people found the following review helpful. Well written, but a bit agedBy Mark CorrinOverview I read this book to help with a neuroscience class project concerning speech and linguistic intelligence. This was one of the first nonfiction books I found that centrally pertained to my topic. First off, and most importantly, this book is fairly old.

With the earliest Copyright date in 1959 and the latest in 1974, there are many things in this book that are outdated and/or disproved. With that being said, the book has lots of historical detail and case studies to justify its assertions. There is a lot of good history and an interesting narrative of the great speech scientists. It is well written, with many detailed diagrams and gross anatomy photos (albeit all black and white ones). There are many references to scientific research studies, psychological case studies, and clinical studies. It is structured in chapters, each with different subsections that make navigation and reading easy to follow. Overall, my opinion of the book is very positive, however, I have chosen to give it four stars because of the old age and outdated nature of the book.Synopsis of the Book The introduction of the book begins by explaining the on-going debate on the division between the "brain" and the "mind". Where do electrical impulses end and consciousness begin? While strides have been made to solve this debate, it is still a relevant topic of discussion, even in today's neuroscience community. Chapters two and three of the book cover the anatomy and physiology of the brain. The next several sections of the book focus specifically on speech and linguistic ability as it relates to the brain. Chapter four contains a detailed narrative of the scientists that theorized many of the brain's speech mechanisms, such as Paul Broca, Jean-Martin Charcot, Pierre Marie, Carl Wernicke, and John Hughlings Jackson. It highlights their major studies, and describes the ways in which each changed the understanding of the field. This chapter also introduces the concepts of aphasia (difficulty or loss in speech), alexia (difficulty or loss in reading), agraphia (difficulty or loss in writing), agnosia (difficulty or loss of knowledge or recognition), and apraxia (difficulty or loss of ability to perform learned motor movements).Chapter five introduces the ways that many of the scientist from chapter four, as well as scientists in the present day (as of the writing of the book) studied the brain, and specifically the area's relating to speech. Chapter six, seven, and eight all focus on cortical mapping. Six focuses on trying to use handedness to determine the speech dominant hemisphere. Seven describes many of the experiments and procedure used to map the brain, and eight details the results from both chapters six and seven. They used electrodes to stimulate different areas in the brain, and then tested the patient to determine what was affected. In this way, they made a crude map of the brain's speech and speech association areas. Chapter nine contains multiple case studies of various cortical excisions. This is the longest section in the book, since it takes the time to detail every major case in this field. These cases describe patients who had parts of the cortex associated with speech (Broca's area, Wernicke's area, etc.) removed. The patients were then monitored for the onset of mental difficulty (aphasia, apraxia, agnosia, etc.). Chapter ten is the conclusion and it summarizes the findings in the books, and begins to make some theories and speculations based off of them. The epilogue takes the information from the book, and applies it to practical application. The primary application was to use the knowledge of the brain's speech mechanisms to improve the teaching of both primary languages in schools and secondary languages in schools.Opinion on the Book The first section (Intro, Ch. 1, 2, and 3) pertain to the brain as a whole. Overall, this section is accurate, however it seems to be lacking in many respects. Obviously this is because of the book's age. Where we now have labels and functional associations on the brain map, this book simply has blanks. Despite this, what information was to be had at the time is presented in neat, scientific manner. The next major section (Ch. 4 and 5) gives a very good history of the scientists and their techniques. There is little to be said on this section as it is mostly history, and has not changed much over the past 40 years. It provides a nicely written narrative and explanation of the accomplishments and discoveries made by these scientists. This is a very good section of the book, as it has good information that is still pertinent and relevant today. The third section (Ch. 6, 7, and 8) is about cortical mapping. While today we have EEG, fMRI, PT, and CT scans, many neuroscientists still use electrode stimulation as a way to map and study the brain. In this section we see the beginnings of this technique, and the discoveries that arose from it. While intended to be a very scientific section, nowadays it seems more like history. While many of the studies presented seem simplistic and haphazard compared to today's standards, many of the results are fairly accurate. Chapter nine is a standalone section. It is a large collection of case studies. While many of these studies are interesting, and there is some good information in this section, there are little conclusions that can be drawn from it. This is because both the excisions and the consequences of the excisions all varied greatly. The last section (Ch. 10 and epilogue) provides a good ending for the book. The conclusion summarizes the studies in the book nicely, while the epilogue helps to show how this information can be used in a practical sense. There are many good ideas presented, many of which have already or are currently being implemented.Recommendation As far as recommendations go, I would say that if you are looking at getting this book for academic, professional, or scientific reasons, look for something more current and up to date. If you are simply interested in the history of the scientists, or of the field, then this book would be fine.4 of 4 people found the following review helpful. Speech and Brain-MechanismsBy cortezhillThis book is the outcome of ten years of carefully planned study of the neurological mechanisms of speech. The material was drawn from an active neuro-surgical practice, with all the help and consultation possible from the many disciplines of a clinical institute.Separate consideration is given to aphasia and other speech disturbances, brain dominance, and the evidence for localization in the dominant hemispere. separate treatment is also given to speech testing, language learning and teaching.The authors summarize the functional anatomy of the human brain and the recent physiological conclusions derived from electrical stimulation of the cerebral cortex of man. Against this general background they discuss hypotheses of verbal memory and conceptual memory, and the mechanisms of the brain that

form the cerebral basis of consciousness.The final chapter deals with the learning of languages. Application of the neurophysiology of speech is made to teaching methods in primary and secondary schools.Through case studies of cortial excision and a new method - mapping the limits of the cortical speech areas by electrical interference - the authors have amassed a remarkable body of evidence, thoroughly documented by case studies, photographs, and drawings, and a review of the literature.--- excerpt from book's dustjacket

The outcome of ten years' work, this book is a carefully planned study of brain dominance, aphasia, and other speech disturbances, and includes a discussion of the cerebral mechanisms of speech and the learning and teaching of language.Originally published in 1959.The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.