lay down a few rules that would enable us to spell any geographical name correctly. The system adopted by the Geographical society, however, is a decided improvement, inasmuch as every letter has only one meaning, and there is no room for doubt in the pronunciation of a written name. Therefore *Science* will adopt this system, with the improvements made by the French geographical society.

The pronunciation of letters will be as follows: —

a = *a* in 'father.'
e = *e* in 'there.'
i = *ee* in 'feel.'
o = *o* in 'mote.'
u = *oo* in 'fool.'
ö = *e* in 'her.'
ü = *ü* in German: München.
ai = *i* in 'ice.'
au = *ow* in 'how.'
b, d, f, j, k, l, m, n, p, r, s, th, t, v, w, z, ch, as in English.
g = *g* in 'garden.'
h is always pronounced, except in *th, kh,* and *gh.*
kh = the oriental guttural.
gh = another oriental guttural.
y = *y* in 'yard.'

Vowels are lengthened by a circumflex. Letters are only doubled when there is a distinct repetition of the single sound.

PSYCHIC BLINDNESS.

In this book Dr. Wilbrand has put together a most valuable and interesting series of facts and discussions concerning certain curious and important morbid phenomena. The appearance of such a book furnishes an excellent illustration of the great value and importance of the new view of brain-physiology. This view really takes its origin in the discovery of the electric irritability of the cortex by Fritsch and Hitzig in 1870. Their results at once led to more exact and adequate conceptions of the nature of brain-centres; and, when the pathologist and alienist came to study the forms of brain-lesion and impairment of function with the conceptions derived originally from physiological experiments, the advance step was a great one. And finally psychology must already acknowledge a debt to pathology probably greater than it owes to any other of the many sciences with which it is so intimately associated. Our mental structure is so extremely intricate and so wonderfully formed, that we must use all possible devices to simplify the problems it offers to the psychologist: hence the study of the less complex minds of the lower animals, the observation of the developing faculties of children, and the records of the primitive culture of man, derive their importance. Pathology performs an even more delicate service. It takes away or incapacitates more or less of this complex machinery, and shows in what way the working of the apparatus is thereby affected. Just as we never really appreciate the value of an object until we are without it, so the importance of certain brain-cells to mental sanity is not realized until disease renders them useless.

Die Seelenblindheit als Herderscheinung und ihre Beziehungen zur Homonymen Hemianopsie zur Alexie und Agraphie. Von Dr. Herrmann Wilbrand, Wiesbaden.

Some years ago Professor Munk described the condition of dogs from whose brains a certain cortical area had been removed, and gave it the name of 'psychic blindness' (*Seelenblindheit*). A dog in this condition can see, for he avoids all obstacles as well as ever, but what he sees has lost all meaning for him. If, for example, the dog was accustomed to jump over a rod when it was held before him, he no longer recognizes this signal: his whole psychic life is duller, and, in particular, the world of sight has lost all significance. This is now only one of a large series of phenomena which show that there is one centre in which an object is seen and another centre in which it is perceived, or, better, apperceived. Disease may injure one and leave the other intact. Dr. Wilbrand records two very remarkable cases of this nature, in both of which the patient retained normal intelligence, and accurately described the symptoms. The first is reported by Charcot, and relates to a highly intelligent merchant well versed in several languages, and reading the classics fluently. Up to the time of his attack, he could repeat the whole of the first book of the Iliad, beginning at any point. He had from his boyhood a most remarkable memory, which was almost exclusively a visual one. He could read pages of his favorite authors from the visualized picture of the page which he carried in his mind. If an incident of his many travels was spoken of, the whole scene appeared before him, vivid and complete in every detail. He was an expert draughtsman, and often sketched interesting portions of the landscape on his travels. As a consequence of serious business troubles, his health gave way: he became nervous and irritable, and the peculiar visual symptoms appeared. He found that the sight of the buildings and the scenes of his daily walks seemed strange. If asked to picture a certain place to himself, he was unable to do so. The attempt to draw a church-spire resulted in a rude childish scrawl. He could not remember the faces of his wife and children, and even failed

to recognize his own image in a glass. Even the familiar scenes of his childhood had faded from his memory. In order to understand what he read, he had to cultivate an auditory memory, and read every thing aloud. He no longer dreamt of seeing, but only of hearing. Deprived of the mental imagery which sight furnished, and which in his case was a more serious loss than to persons with less brilliant visualizing powers, his mental life became sluggish and his moods melancholic and sad. The second case from Dr. Wilbrand's practice is no less remarkable, and presents certain peculiar characteristics. Chief among these is a falling-out of the left half of the visual field; that is, the patient could not see with the outer portion of the left retina nor with the inner portion of the right retina (homonymous hemianopsia). This symptom indicates a unilateral cortical lesion.

Dr. Wilbrand analyzes the process of vision one step further. He gives reasons for believing, that, besides the centre for the reception of the visual impression and that for its apperception, there is a third group of cells, whose function it is to store up visual memories, which form the visual memory-area (*Erinnerungsfeld*). If the retina or the optic nerve is destroyed, the result is blindness in the usual sense of the word. But the optical memory remains intact; the visual phantasy is still active; sight hallucinations and dreams may occur, and so on. If the apperceptive centre of one hemisphere is involved, then homonymous hemianopsia of the opposite half of the visual field occurs, and there is psychic blindness in one-half of the brain. If both apperceptive centres are involved, sight hallucinations are impossible; but the visual memory is not directly affected, and sight dreams may occur. If the memory-area is diseased, objects are no longer recognized as familiar: all seems strange and new. The fantasy is dulled: there are no visual imageries or dreams.

Many of these suppositions receive a striking confirmation from the observation of those born blind and restored to sight by successful operations. Such persons are just like infants as regards sight, except that they learn to see much more quickly. Their higher sight-centres must be developed, and in this process one can distinguish the three stages above marked out. Such persons recognize at once after the operation that they have a new sensation, — they see. But the object before them is not apperceived: it is not recognized as the same object they have been touching all along. They soon learn the meaning of their visual impressions, though they constantly call on the sense of touch to prevent deception; but they often fail for some time to remember what they have seen, and rarely dream of seeing things for many months: in other words, their apperceptive and visual memory-centres are developing. The chapter devoted to this topic records other interesting points in these cases, and can be recommended as an admirable account of the subject.

The rest of the book is devoted to the explanation of the detailed pathological symptoms and the discussion of their relation to the centres of language, both written and oral. This more technical part of the subject does not readily admit of a brief exposition. Suffice it to say that Dr. Wilbrand has rendered an important service to several branches of science by this convenient and thorough account of a most important topic. Some of his theories are doubtless to be modified and perhaps rejected by future research, but the spirit and point of view of his exposition is in the right direction. As was said at first, it shows the vast explanatory power of the modern theories of brain-physiology. J. J.

BASCOM'S SOCIOLOGY.

HERBERT SPENCER, who has done more than any other one man of this generation to popularize the study of social science, points out very forcibly, in his book on the 'Study of sociology,' the difficulties which beset the student of social phenomena and conditions. He shows us there that something is true of sociology that holds good in no other science; namely, the facts to be observed and generalized by the student are exhibited by an aggregate of which the student himself forms a part. His functions and life as a citizen, therefore, determine in a large measure his stand-point and methods as an investigator. It is on this account essential, in estimating the value of sociological researches, that we know something about the personality of the observer. In the case of President Bascom we are peculiarly fortunate in this respect. His long and honorable career as a teacher and professor both in the east and in the west, as well as his numerous writings in the fields of philosophy, literature, and religion, afford us ample information as to the methods and postulates of his thought.

In fact, this newest book from his pen is best understood when read in connection with his previous books on psychology, ethics, and the philosophy of religion. The tone and the style of treatment are the same in all.

In his preface to the present work, President Bascom expressly says that his aim has been to cover a large field suggestively, rather than a nar-

Sociology. By JOHN BASCOM. New York, Putnam. 12°.