surface and within reach of my dip-net, though a good many were brought up by use of the oars. This habit of retreating from the surface when weather conditions are unfavorable explains the apparent absence of the medusae on some of my previous visits to the creek. It has become evident that cloudy weather is unfavorable to finding it. The best conditions, judging by the character of the three seasons when it has now been found, are settled, clear days, when the water is low, free from silt and there is little current in the creek.

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THE PEANUT PLANT

SINCE the peanut plant (*Arachis hypogea* L.) has become of such economic importance as to demand a description in every text-book on field crops, attention should be called to a mistake that was made by the early writers so that in the future the blossoms of this important plant might be correctly described.

Arachis hypogea is one of the Leguminosae and has sessile papilionaceous blossoms. The calyx consists of a tube about an inch in length crowned by the five sepal tips. On the throat of calyx tube are situated the five bright yellow petals. The calyx tube was mistaken for a peduncle and so described by the early authors, and the whole structure was termed a "sterile" blossom. After the blossom withers and falls off, the ovary, by the rapid growth of the internode between it and the receptacle, is lifted from between the bracteoles in the leaf axil and responding to geotropic influence turns toward the earth and the seeds are further developed and ripened only after it has been pushed below the surface of the ground. The early writers looked upon and described this gynophore with its ovary as a "cleistogamous" blossom.

Poiteau in 1805 first correctly described the blossom of the peanut. Robert Brown in 1816 confirmed Poiteau's description. In 1839 Bentham wrote of *Arachis hypogea* as a plant with dimorphic flowers, one with calyx and corolla which is always sterile, the fertile flowers having "neither calyx, corolla nor stamens . . ." and when Neisler in 1865 reconfirmed Poiteau's description, Bentham in the same year defended his paper of 1839. Corbett as a contributor to the "Cyclopedia of American Agriculture" (1907) describes the plant as having dimorphic flowers and *illustrates* the "fertile" and "sterile" blossoms.

Notwithstanding the works of Poiteau, Brown and Neisler, the majority of our modern publications, including scientific papers, agricultural bulletins and text-books on farm crops, in referring to the peanut plant seem to quote from the earlier writers and speak of it as having fertile and sterile blossoms, whereas it has complete blossoms and is self-fertilized.

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SCIENTIFIC BOOKS

Neurological Foundations of Animal Behavior. By C. J. HERRICK, H. Holt & Co., New York, January, 1924, xii + 324 pp.

Physiological Foundations of Behavior. By C. M. CHILD, H. Holt & Co., New York, January, 1924, xii + 330 pp.

THE "Neurological Foundations of Behavior," by C. J. Herrick, and the "Physiological Foundations of Behavior," by C. M. Child, were written, in close collaboration and were issued from the press at the same time. They represent, so to speak, twin volumes; they appear, as twins commonly do, in the same garb, and they are of nearly the same size. But in addition to these superficial features of likeness, there are many other points of resemblance due to common hereditary factors. The writers appear to be in essential agreement in regard to their fundamental concepts. The notion of metabolic gradients which Child has elaborated in several volumes and a multitude of papers is adopted also by Herrick, and it forms the keynote of both volumes. The gradient idea, according to the authors, gives not only an interpretation of organic form, but it affords the basis for a science of behavior.

Both authors regard form and behavior as intimately and essentially correlated. It is the structure and physiological properties of the nervous system that form the neurological foundations of behavior, and Herrick's volume is devoted largely to describing the various types of nervous organization in different groups of animals, and in showing the significance of these types in relation to the kinds of behavior which the animals exhibit. After Herrick's first two chapters, which are mainly introductory, there is a description, in chapters 3 and 4, of the different types of receptors. Then follows in chapters 5 to 16 a survey of the types of nervous systems with their correlated kinds of activity from the protozoa to the higher vertebrates. For the reader who wishes to obtain a comprehensive idea of the architecture and evolution of the nervous system, these chapters will prove most useful. Throughout the volume, structure is interpreted from the standpoint of function. To show how the mechanism works is the constant aim.

For many readers, perhaps the most interesting of the series of chapters mentioned are those dealing with the "Evolution of the forebrain and functional factors in forebrain development." The forebrain is