

scopic photograph of a microscopic object." Funk and Wagnalls dictionary says, "Photomicrography is the art or process of making photomicrographs: opposed to microphotography."

Webster and Oxford give definitions for the two terms similar to those above quoted, but, unfortunately, give the other word as a second choice in both cases. Oxford, however, quotes Sutton and Dawson, "Dictionary of Photography," "Microphotography . . . is now used to designate the reduction of negatives to very minute size, and serves to distinguish it from the process denominated photomicrography."

Obviously to me, "photomicrographs" is the correct term to use for the numerous reproductions appearing in current scientific literature and advertisements, of all manner of photographs taken through microscopes. I deplore such misuse as is evidenced in the *Scientific Monthly*, September, 1928, page 209 (the same article uses the term "microorganism"); in *SCIENCE*, advertisements in various 1928 numbers; in *Industrial and Engineering Chemistry*, volume 20, number 10, advertisement on page 62; and in other places, the exact references to which I have forgotten. In the *Scientific Monthly* referred to, the misuse of "micro" as a prefix is carried to "microcinematographic photographs." May I mention a paper by R. B. Harvey and myself (*Phytopathology*, volume 11, number 3) in which the perfectly good and logical, though somewhat long word, "cinematophotomicrography," is used?

It would seem that "custom" has already permitted the misuse indicated. I protest. I wonder if it will do any good.

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WHEN IS NORMAL NORMAL?

MUCH has been written about the concept of normality, especially in statistical and educational literature, but the terms "normal" and "abnormal" are commonly used both in those fields and in general biological terminology to denote approach to or deviation from the usual or average, without qualification as to whether they refer to the medium considered or to the causative factors involved. For this reason entirely normal reactors are frequently described as "abnormal," when in reality only the causative factors deviate from the average, and contrariwise abnormal reactors are described as "normal" because they have not shown "normal" responses to abnormal conditions.

Examples of this could be taken from almost any field of biology, but consider the case of an originally normal child whose experiences have caused it to

develop certain inhibitions and behave quite differently from other children. In such a case the deviation of this child's behavior from the average behavior of children of his class is accepted as a measure of his abnormality. Suppose, though, that practically all average children when subjected to the same or similar experiences react in the same or in a similar manner. Then this child and his behavior are entirely normal when considered in the light of his past experiences, and it is only his experiences which are abnormal. Furthermore, if this child remained unaffected by the abnormal conditions he had experienced and which it had been shown would bring about a new type of behavior with average children, then, though still behaving like normal children without the same experiential background, he would be abnormal because he had not been normally affected by his unusual environment.

The same principle applies equally well, it seems to me, whether the unusual growth or other function of a tissue or organism or any other similar biological phenomenon is being considered. The medium itself may be abnormal and demonstrate appropriate abnormal behavior; again it may be entirely normal but attract attention by its response to abnormal causative factors.

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SCIENTIFIC BOOKS

Scientific papers of William Bateson. Edited by R. C. PUNNETT. 2 vols. Illustrated. The Macmillan Co., N. Y.

THESE two beautifully printed volumes from the Cambridge (England) University Press contain the collected scientific papers of Bateson reprinted from various journals and books. An account of his life and work by Mrs. Bateson and his more popular writings have already been published elsewhere. These volumes contain the record of his work, as he published it from time to time, conveniently brought together in one place. Like all "collected papers," many of these have now only a historical value. They have had their effect on contemporaneous scientific thought and investigation and are chiefly valuable now for the unified picture which they present of the achievements of one of the leading scientists of our time. To a student of the history of biological science in one of its periods of most rapid progress they will be of great value.

In order to understand what these papers are about and why they were written, one should have