Taxonomy Today

IT IS only a generation—say about 1920—since *avant-garde* biologists considered systematic studies of organisms as profitless. The attitude stemmed mainly from one or both of two widely held opinions. The first was that the fauna and flora of the world had become substantially known and described; and the second that, in any event, discovery and description of relationship accomplished nothing toward explaining it. In other words, taxonomy was viewed as a backwater rather than a dynamic current in the broad stream of evolutionary research.

The first supposition, as to the relative proportion of fellow-inhabitants of the planet with which man has established a merely casual acquaintance, has been upset during the past 25 years, most of all within the class Insecta. We used to be told, and we still read, that the total number of kinds of animals is of the order of a million. But Professor Brues, of Harvard, seems by ingenious induction to have convinced most zoologists that insects alone comprise at least five million species, and that they may approach ten million. At the lower estimate, hardly more than about 15 per cent of the whole fauna has yet been recognized.

The second alleged shortcoming of taxonomy—namely, that it could picture but never interpret—has been overcome partly by new approaches, techniques, and aims by the students of systematics themselves. Equally important has been a growing realization among physiologists, geneticists, ecologists, biogeographers, and even virologists (!) that the vast, explicit, and rapidly accumulating data, which are replacing a chaotic world of life by one of order and sequence, are a resource that they can no longer ignore.

For such reasons, teamwork has restored taxonomy to the full dignity of a science if, indeed, it ever lost that status except through the vagaries of its less admirable exponents. For such reasons, also, Julian Huxley edited *The New Systematics* (1940), and Mayr's *Systematics and the Origin of Species* (1942) followed hard and creditably upon Dobzhansky's *Genetics and the Origin of Species* (1937). It looks as though Darwin's own high esteem for systematic research were at long last being justified.

The new trend is, of course, a happy one for museum naturalists, who have had no small part in guiding it. The larger natural history museums stand in the same relation to the legions of life that libraries stand to books. The museum is the one repository in which a high proportion of the myriad physical manifestations of life is on permanent and accessible file.

The modern taxonomist is, first of all, no "closet naturalist." He is aware of experimental findings that bear upon his own field and is prompt to take account of them. He thinks in terms of living protoplasm. He looks beyond his stored specimens to the great laboratory of the out-of-doors, in which the genetic characteristics of his material have evolved under at least one condition that man cannot "control"—namely, the amassed effect of secular time.

Nor is the taxonomist limited to the traditional conventions of measuring and comparing superficialities that may or may not be cognate with deeper relationships. He may, in one group or another, compare blood sera, electrophoretic patterns, and the likeness or unlikeness of behavior in the organisms under scrutiny. He is capable of recognizing a homozygote in a complex natural species no less than among the living productions of cages or bottles. He is fast developing a competence to extend and apply particular laboratory findings toward a general understanding of what, in the parlance of the day, we might call the "global biota."

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SCIENCE, founded in 1880, is published each Friday by the American Association for the Advancement of Science at the Business Press, 10 McGovern Ave., Lancaster, Pa. Entered as second-class matter at the Post Office at Lancaster, Pa., January 13, 1948, under the Act of March 3, 1879. Acceptance for mailing at the special rate postage provided for in the Act of February 28, 1925, embodied in Paragraph (d-2) Section 34.40 P. L. & R. of 1948.

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Annual subscriptions, $7.50; single copies, $.25; foreign postage, outside the Pan-American Union, $1.00; Canadian postage, $.50. Special rates to members of the AAAS.

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