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HODMEN OF SCIENCE

It was not often that Huxley, careful of justice and equally so of the value of words, made a false step. But he certainly did so in the reference, in one of his addresses, in which he referred to "species-makers, the hodmen of science." This contemptuous phrase involved in itself certain falsehoods, mistakes in fact, or else failure in understanding. There are no "species-makers." There are describers of forms of life—and, as elsewhere in science, some of them are ignorant, amateurish or careless. Their work may be of no aid to science, and except for the necessary bookkeeping, they have no integral part in it. But poor work is not confined to taxonomy, and Huxley's words could be just as justly applied to workers in morphology.

It was a favorite phrase with Agassiz, "Strive to interpret what really exists." What really exists in the animal and plant world is a prodigious variety of definable forms, which have run the gauntlet of life and which have endured. These groups, called species, are varied within themselves and differ in highly varying degrees from other similar groups, the boundaries of species being well defined or ill defined, usually in proportion to the barriers that surround or separate them. That which concerns us as naturalists is the truth, whatever it may be, and the expression of the individual facts in tangible and recordable form.

In these matters, exactness of records is as vital as good maps are to geography, and in biology, as in geography, early work is inferior to late work, and inaccuracy is likely to intrude anywhere. In zoology and botany it is equally important to know the usual or normal form, and as far as may be, the variants or connectives which may spring from it.

Two very important branches of science are absolutely dependent on broad and accurate knowledge of species as they exist in nature, and these can not be separated far from each other. These are geographical distribution, on the one hand, and organic evolution, on the other. The relation of the first is evident; that of the other is not less vital. The major problem of organic evolution is summed up in the "Origin of Species." We assume, and must assume, that every feature of life, as we know it, has behind it some sufficient cause. The grouping and generalization of these multitudes of elements constitutes our answer to this problem of the "Origin of Species." All serious students agree as to the

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