

Darwinism and Evolution

ONE is safe in saying that, to the great majority of intelligent readers nowadays, the terms Darwinism and evolution are synonymous. At best there is, tho not widely prevalent, a vague and disturbing impression that scientific men have made some unimportant and incomprehensible distinctions in their uses. That an anti-Darwinist may be an uncompromising evolutionist seems to the great public a paradox. And yet it is quite true that Darwinism today is disputed by a large and growing body of scientific students to whom evolution is the fundamental principle of all life. Perhaps the first attack made upon the all-sufficiency of the distinctive doctrine so convincingly brought out by Darwin—natural selection—was by the Lamarckian school, which rose to considerable eminence a dozen or more years ago. The battle was, for a while, a notable one. The Lamarckians, it is true, have been repulsed by numbers, tho they by no means acknowledge defeat; while their whilom opponents, the Darwinists, are now facing the common enemy, those who deny the effectiveness, or even the possibility, both of natural selection (Darwinism) and of the hereditary transmission of the effects of use and disuse on the organism (Lamarckism), as factors in the origin and preservation of species. We have heard so much about the "struggle for existence" during the past forty years, the phrase has permeated literature so widely, that to be told now flatly and

offentimes intemperately that there is little or nothing to it is like a dash of cold water; it makes us gasp. Perhaps the center of attack on these generally recognized views is as yet Germany, tho there are some in America who have already entered the lists or have thrown down the gauntlet. That the Germans should declare that "Darwinism is dead" does not surprise us greatly—we are already painfully aware of the predominating German characteristics in science, intolerance and conceit. But, that its friends among the laity may not be frightened at the supposed imminent danger of the citadel of Darwinism from this Teutonic invasion, let us remind them that other theories of evolution have been as intemperately urged by the Germans in the past, theories which now scarcely cut any figure at all in the triumphal procession of evolution.

However, nearly all controversies result in some good, and the present one has very clearly demonstrated to most of us that natural selection is not so all powerful in evolution as we were once disposed to believe it was. Darwinism must be modified and amended doubtless—the Lamarckians showed its adherents that if nothing more; but its staunch defenders have lost no faith in it as the guiding principle of evolution.

Very timely and welcome, then, is Kellogg's work on the present status of Darwinism.* Professor Kellogg is a voluminous and facile writer; he is also a serious student of biology, and is thus by both experience and training well fitted for his present task, one involving good judgment and discrimination as well as wide reading. He has presented the arguments fairly from all sides, biased a trifle, perhaps, by his views, as who could help be? He has given in a readable way the present-day arguments for and against Lamarckism; natural and sexual selection; the mutation theory, that is the discontinuous theory of variation, or heterogenesis; the determinative theory, or orthogenesis, that is that variations may and do occur along predetermined lines, whatever be the cause, tele-

ological or not; the theory of environmental selection or orthoplasia, that is the more recent Baldwin-Osborn-Morgan theory, etc. He has also given what to many of us must seem as the lame and impotent substitutes for some or all these theories; and has done all this within a readable-sized book. Some parts, we must confess, seem a little too technical for any but the special student; and the author has been a little too free in the use of terms that few will understand save the trained biologist. He would better have omitted the long German quotations, or have translated them into his own fluent English; and the proof-reading, especially of the quotations, has not always been all that could be desired. Nevertheless the book may be unhesitatingly recommended to the student of biology as well as to the non-professional or even non-biological reader of intelligence. The author is a protagonist of no doctrine, and has added perhaps nothing of note that is new to the discussion. The main thing is that the book gives a full, concise, fair and very readable exposition of the present status of evolution; and as such its appearance is very welcome. It should be widely read within the next few years.

* **DARWINISM TO-DAY.** A Discussion of Present Scientific Criticism of the Darwinian Selection Theories, Together with a Brief Account of the Principal Other Proposed Auxiliary and Alternative Theories of Species-Forming. By *Vernon L. Kellogg*. New York: Henry Holt & Co. \$2.00.