

# SCIENCE

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## SOME PROBLEMS IN EVOLUTION<sup>1</sup>

It was nearly 100 years ago that Charles Darwin began his scientific studies in the University of Edinburgh. In this illustrious center of intellectual activity he met various friends keenly interested in natural history, and attended the meetings of scientific societies, and it was doubtless here that were sown many of the seeds destined to bear such glorious fruit many years later. No more fitting subject, I think, could be found for an address than certain problems relating to his doctrine of evolution. That controversy perpetually rages round it is a healthy sign. For we must take care in science lest doctrine should pass into dogma, unquestioned and accepted merely on authority. So from time to time it is useful to reexamine in the light of new knowledge the very foundations on which our theories are laid.

Perhaps the best way of treating these general subjects is by trying to answer some definite questions. For instance, we may ask: "Why are some characters inherited and others not?" By characters we mean all those qualities and properties possessed by the organism, and by the enumeration of which we describe it; its weight, size, shape, color, its structure, composition and activities. Next, what do we mean by "inherited"? It is most important, if possible, clearly to define this term, since much of the controversy in writings on evolution is due to its use by various authors with a very different significance—sometimes as mere reappearance, at other times as actual transmission or transference from one generation to the next. Now, I propose to use the word inheritance merely to signify the reappearance in the offspring of a character possessed by the ancestor—a fact

<sup>1</sup> Address of the president of Section D—Zoology—British Association for the Advancement of Science, Edinburgh, September, 1921.

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