

THE ZOOLOGIST'S VIEW OF EVOLUTION

(Abstract.)

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As time goes on it becomes more and more certain that plants and animals have come to their present condition by a long series of changes. Recent advances along many biological lines have furnished what are perhaps the most striking of all the confirmations. There is now no biologist who is not firmly convinced that the only explanation of the present day similarity with diversity among organisms is to be found in the view of blood relationship. And the evidence that man must be included in this statement is equally strong. Any one who is willing to subject this evidence to careful examination will be convinced of its soundness.

When biologists became certain of the fact of evolution they centered their attack on the determination of the way in which evolution acts, upon the conditions or factors of the process. These investigations have gone on step by step, demonstration of each step being gained by accurate observation and experiment with critical discussions. These discussions of the problems at the frontier of investigation have been taken by superficial observers to indicate difference of opinion among biologists as to the fact of evolution itself. The real situation is that as our knowledge of the method of evolution increases there is always a border zone of new problems under active investigation and discussion. In such a zone there will always be differences of opinion. It should not be necessary to state that such differences do not affect belief in evolution itself.

In the time at my disposal I shall pick out a few of the zoological facts upon which our belief in evolution is based, laying special emphasis upon the more recent work:

1. Evidence from comparative anatomy.
2. Evidence from embryology.
3. Evidence from classification.
4. Evidence from geographical distribution.

5. Evidence from physiology.

6. Evidence from direct experimental studies of evolution.

In conclusion, a few words may be said concerning man's relation to the rest of the universe. Scientific investigations have demonstrated that the universe is not a fixed, rigid system but a changing one. The earth is a part of this changing universe and as such has gone through a series of orderly processes, finally reaching a stage in which life became possible. When living things came they in turn did not remain unchanged. They progressed from one condition to another until man himself appeared.

There is grandeur in this view of man as an integral part of the universe. He fits into a large scheme of things, not as a disturbing element but as a fulfillment of the plan. The fertility of this dynamic conception has been demonstrated in all fields of human thought and action. The knowledge of a long course of past improvement leads to a belief in the probability of further advance. It is highly improbable that man is at the apex of a long series of upward change. Instead, there is every reason why we should prepare for boundless further advance. If we will but accept the obvious facts and apply their lessons to human improvement, we can accelerate the onward progress not only to a goal fixed by present aspirations but past it to conditions beyond our dreams.