

EVIDENCES FOR EVOLUTION

NO.1

THOUSANDS OF NEW TYPES OF LIFE

PRODUCED WITHIN PAST CENTURY

Dr. Davenport Declares Animals and Plants Constantly Change-
Testimony of Nature is Scientist's "Word of God".

By Dr. C. B. Davenport,
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(Dr. Davenport is one of the leading geneticists of the country. The many researches of the Station for Experimental Evolution at Cold Spring Harbor, Long Island, N. Y., are under his direction.)

The fundamentalist complains that his faith and that of his children is being shaken by the discoveries and conclusions of the biologist. This faith is based on the teaching, directly or indirectly, of the clergy whose statements the fundamentalist accepts as truth.

The biologist has a faith also which is very precious to him and that faith is based on observation of nature and the experimental study of nature's phenomena, and for him, the answers that nature gives to his questions are more significant than the assertions of the clergy.

Fundamentalists accept what they have been told about the accuracy of description of the origin of the universe given in the Scriptures. The biologist will accept the authority of no man, not even the man who presumes to state that the description of the origin of the world in the Bible is the "Word of God". The biologist has his own idea of what is the word of God. He believes it to be the testimony of nature. This testimony has to be wrong, as it were, out of nature but in this way evidence can be secured and has been secured that is incontrovertible.

Among the many lines of evidence, one of the most significant is that derived by the study of the origin of new forms under domestication. All kinds of organisms were not made at the beginning of the world. There are now thousands of forms of animals and plants that reproduce their kind which did not exist a century ago. Within the last ten years there have been produced scores of forms of the banana fly never before seen by the eye of man. Indeed, the very day on which the ancestors of some new types first appeared is known and many of these types have persisted to the present day.

We know indeed not a few forms which have appeared recently and which fulfil the essential conditions of species as the naturalist finds them in nature. These forms differ by two or more constant traits from other species. They are quite as infertile with other species as some wild species are with each other. The principal difference between them and wild species is that their beginnings have been seen and are known to be recent while that of wild species has not been seen and so their origin is of unknown date.

But it is known that thousands of wild species, that we have on earth today, did not exist in earlier geological ages just as there are thousands of species that lived in past geological ages that are not living today.

The conception of a world that does not change is one that may have seemed possible to monks shut in their cells; but every one, who has travelled and observed widely, knows that the face of the earth is changing; and every one who has lived with and bred animals and plants knows that they too are changing.

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EVIDENCES FOR EVOLUTION

NO.2

MAN'S INSTINCTS AND EMOTIONS SHOW

EVOLUTIONARY LINK WITH ANIMALS

Biologist Holds that Nerves, Muscles, Glands, and Structure
are Evidence of Filial Relation with Rest of Nature

By Dr. William E. Ritter,
President of Science Service.

(Dr. Ritter was formerly director of the Scripps Institution for Biological Research and professor of Zoology at the University of California. He is author of the "Unity of the Organism" and the "Usefulness of Science".)

Down to a few years ago nearly all the facts on which rested the hypothesis that man originated from lower forms of life by some marvelous process of natural transformation were drawn from studies on bodily structure. Fossil remains, physical organization of men and other creatures now living, and developing embryos, were the almost exclusive sources of such facts.

But now that researches into the activities and mental life of all sorts of men, in comparison with all sorts of inferior beings, has been and is being pursued on a vast scale and with great accuracy facts from this other source apparently having the same meaning are coming to light in astonishing numbers. Charles Darwin foreshadowed the new era of investigation by his book "The Expression of the Emotions in Man and Animals". But the most positively scientific gate-opening into this great realm was made nearly simultaneously by the American psychologist, William James, and the Danish physiologist, Carl Lange. The combined results of these initial labors was what is known as the James-Lange theory of the emotions.

The main facts invoked by this theory are too obvious to escape any one: All emotional states as of joy, grief, fear, anger, jealousy, love, are associated with more or less characteristic bodily manifestation, these often seeming to involve the entire physical framework. The theory says the bodily states thus manifested actually constitute the emotions. It is not, as the older theories had it, that the body is played upon as it were, by some independent entity, as a spirit, something as a piano is played upon by a pianist, but that the living organism's mode of responding to certain influences from the external world are the emotions.