

After ten minutes the worm is killed with chloroform vapor and covered with water. A median dorsal incision is made, the body wall pinned out, and the digestive and reproductive organs removed. The nephrostomes are seen distinctly as deep blue structures. Other parts of the nephridia are colored somewhat less intensely. If one wishes to make an entire nephridium stand out more clearly, the preparation is removed from the water, moistened with a few drops of the dye and exposed to the air for ten minutes. As a result of this treatment the entire nephridium is clearly delineated and, when covered with water, may be examined under the hand lens or the binocular microscope. The preparation will remain in good condition for several hours.

If a permanent mount is desired, the organ is carefully excised, and fixed in an 8 per cent. solution of ammonium molybdate. The usual treatment of tissues stained *intra vitam* with methylene blue is then followed. A simpler way is to fix in corrosive acetic or any other general fixing solution, stain with Delafield's haematoxylin and with eosin, dehydrate, clear and mount in the usual way. The presence of methylene blue in the tissues does not interfere with the use of other stains, since it is decolorized by the acid of the fixing solution and is extracted by the alcohols during dehydration.

ELBERT C. COLE

WILLIAMS COLLEGE

### PROFESSOR O. C. MARSH AND PITHECANTHROPUS

I DESIRE to call attention to a statement in the chapter on "Animal evolution" in "Contributions of Science to Religion," by Dr. Shailer Mathews. On page 200 is the following statement:

Some question as to the authenticity of the published account of the remains of *Pithecanthropus erectus* arises out of the fact that their custodian, Dr. Dubois, will not permit its further study by his colleagues. The extreme fragility of these valuable relics is perhaps sufficient extenuation for what might appear to be a selfish attitude.

A footnote is appended as follows:

Since this was written news has reached us that at least one leading American anthropologist has been permitted to examine the *Pithecanthropus* remains; but no report has been made public.

Remembering an article which I had read in the *American Journal of Science*, but not having present access to files of that journal, I asked Miss Lowes, librarian of Washington and Jefferson College, to look up the reference for me, which she has kindly

done. It will be found on page 475, Vol. I (4th series), 1896, *American Journal of Science* (Silliman's journal).

The paper, as I remember it, was illustrated with figures of the cranium, femur and molar; and in it Professor Marsh states that at the meeting of the International Zoological Congress, in Leyden, September, 1895, Dr. Dubois, a half an hour before reading his paper, invited him and Professor Flower, of England, to examine the *Pithecanthropus* material; further, that both he and Professor Flower were in agreement with the conclusions of Dr. Dubois.

If any one will take the trouble to examine the files of the *American Naturalist* for the years 1895-96 he may be able to confirm my recollection of the opinions of two eminent scientific men concerning *Pithecanthropus*, Professor E. D. Cope, then editor of the *Naturalist*, and Dr. Harrison Allen. Professor Cope, the comparative anatomist, did not look upon Dr. Dubois's specimens as simian, but was inclined to refer them to the race of Neanderthal men. On the other hand, Dr. Allen, the human anatomist, saw nothing human in the remains. Of course neither of them had had the opportunity which Professor Marsh later enjoyed, of examining the material. One might, however, conclude, from this disagreement of two eminent authorities in their several lines, that their different opinions really tended to confirm Dubois's decision that *Pithecanthropus* is "neither beast nor human," but a veritable missing link, even if in a more or less collateral line.

My reason for making this communication is not for the purpose of criticising the chapter on "Animal evolution," which is an excellent presentation of the subject, nor of the volume of which it is a part, which is an admirable and timely contribution to the literature of these atavistic times, but to do what I can to render innocuous any use that might be made of the oversight by the "energetic ignorance" of the present day.

I have lately had occasion to read some of the present-day anti-evolutionary literature, and have been much impressed by its similarity to the erratic writings of opponents of animal experimentation, vaccination and the like. There is displayed the same facility in special pleading and the same disregard of facts. While it is not possible for one to say truthfully of these eccentric people that they are "ever learning," one may be permitted to say that they seem to be "never able to come to a (full) knowledge of the truth."

Of some of these anti-evolution writers I think that it should be said that they write with the best of intentions, albeit, it must be owned, not always in the best of tempers. If any such should chance to see

this communication, I hope, after they have verified the reference, that they will refrain from making unjust charges against Dr. Dubois.

It is not for the anti-evolutionists, however, that I make this contribution, but rather for the information of those who, in these days when state legislatures are attempting to settle scientific questions by majority vote, are called on themselves to be energetic champions of the truth.

And, speaking of state legislatures, while I have not seen the text of the anti-evolution law enacted by the law-makers of the state of Tennessee, and which is impending in other states of the Union, I presume that they have had the foresight to make it illegal for human skeletons, in museums and schools which are supported by public funds, to wear their coccygeal bones.

EDWIN LINTON

AUGUSTA, GEORGIA

#### FAUNA HAWAIIENSIS

BERNICE P. BISHOP MUSEUM, Honolulu, has on hand a number of incomplete sets of Fauna Hawaiiensis. The following numbers will be sent to libraries or individual scientists on receipt of twenty-five cents in stamps to cover the cost of postage on each volume: Volume I, Nos. 4, 5, 6; Volume II, No. 6; Volume III, Nos. 3, 4, 5, 6. Bishop Museum Memoir, Volume VII, No. 2 (Monographic study of the tribe Lobeloideae, by Joseph F. Rock, 395 pages, 217 plates) may also be obtained for the cost of mailing, forty-five cents.

HERBERT E. GREGORY

BERNICE P. BISHOP MUSEUM

#### QUOTATIONS

##### THE ANTI-EVOLUTION TRIAL IN TENNESSEE

THE mortification which most educated Americans feel about the Dayton trial has at least one offset. This challenging of the truths discovered by scientific inquiry yields at any rate this advantage, that it gives scientific men a better opportunity than they ever had to bring their teaching home to millions. They can unfold the evidence for what they believe, and can get a wider and more interesting hearing for it. Elsewhere in the *Times*, for example, Dr. Henry Fairfield Osborn states, summarily but effectively, the anatomical and geological proofs of the descent—or ascent—of man. This will undoubtedly be read with an attention that could not have been elicited from the general public had not Mr. Bryan made his ignorant and intolerant assaults upon those who accept evolution as the method of creation.

He has, in reality, given to scientists and teachers a splendid chance. They will now have a larger and more alert popular audience than they have ever known. Such an opportunity for popularizing, in the best sense, scientific truths can rarely have presented itself. Let it be improved by men ready to give the reasons for the faith that is in them. They can explain in a way intelligible to the ordinary mind the process of engrafting the theory of evolution upon all modern thought. They can show how it is to-day the presupposition of inquiring minds in all departments of knowledge. It is taken for granted in every laboratory. It is a part of the baggage which every explorer carries with him into unknown lands. It is the indispensable tool of the modern investigator and the modern philosopher alike. It is the great working hypothesis of science everywhere. Educated men think unconsciously in terms of evolution. The idea of it and applications of it are woven into the intellectual life of the whole world to-day.

All this can be set forth, with the evidence for it and the human benefits to be derived from it, and then the ignorant defiance from Tennessee can be met by the poet's indignant assertion that it is "shame to stand in God's creation and doubt truth's sufficiency." —N. Y. *Times*.

#### SCIENTIFIC BOOKS

*The Cell in Development and Heredity.* By EDMUND B. WILSON, professor of zoology in Columbia University. Third Edition, Revised and Enlarged. The Macmillan Co., 1925.

THE grateful and enthusiastic student of cytology can paraphrase Emerson's exclamation concerning Plato by saying of this book: "In Wilson are all things (concerning cells) whether written or thought." The former editions of this work have been recognized for a generation throughout the world as the most valuable and important books on this important subject, and the present volume, coming a quarter of a century after the last previous edition, represents the enormous advances in our knowledge of cytology which have been made during this period—a development that has probably not been surpassed by any other science during the same time.

Students of cytology have known for a long time that Professor Wilson was preparing a new book and they have been waiting anxiously for its appearance. The present volume more than justifies all expectations. It is, in fact, an entirely new book; the arrangement of materials, the topics treated, even much of the terminology is different from that in the old edition, and the book has grown from nine chapters and 483 pages, in the second edition, to fourteen