

presented is correct, it would seem that it will eventually be possible to express cytomorphosis in quantitative terms as a function of the reaction between protoplasm and its substrate.

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THREE LETTERS BEARING UPON THE CONTROVERSY OVER EVOLUTION

THE three letters appearing below have been used by the writer on a number of occasions, but only the one by President Wilson has been made available by publication.¹

Since the campaign against evolution is spreading in certain localities and since the statements of Dr. Etheridge and Professor Bateson are widely used by anti-evolutionists in support of their doctrines, it may not be amiss to publish these letters where they will be available for use in the refutation of declarations that pass current. The letter by Wilson is included for convenience of reference and because of its general usefulness.

Washington, D. C.
29th August 1922

My dear Professor Curtis:

May it not suffice for me to say, in reply to your letter of August twenty-fifth, that of course like every other man of intelligence and education I do believe in Organic Evolution. It surprises me that at this late date such questions should be raised.

Sincerely yours,

WOODROW WILSON

Professor W. C. Curtis
Columbia, Missouri

The circumstances connected with this letter are explained in the article just cited. The following comment which was made in that connection is appropriate here:

If the speaker is correctly informed, Mr. Bryan has recently declared from his Chautauqua platforms that he defies any son-of-an-ape to show that he (Bryan) is neither intelligent nor educated. I make no comment upon what an intelligent and educated ex-President perhaps thinks of the mental caliber of an ex-Secretary of State.

The following letter from Professor Bateson was received in response to a specific request. To the biologist, Bateson's address was, of course, sufficiently explicit, but the writer had found it unsatisfactory, in the case of one teacher who was under fire, to merely state that this distinguished zoologist meant

¹ Cf. "Current aspects of the doctrine of organic evolution," *School and Society*, April 14, 1923.

only to question the factors of the evolutionary process.

11 December 1922
The Manor House,
Merton
London, S. W. 20

Dear Professor Curtis:

The papers you have sent me relating to the case of Mr. — give a curious picture of life under democracy. We may count ourselves happy if we are not all hanged like the Clerk of Chatham, with our pens and ink-horns about our necks!

I have looked through my Toronto address again. I see nothing in it which can be construed as expressing doubt as to the main fact of Evolution. In the last paragraph (copy enclosed) you will find a statement in the most explicit words I could find, giving the opinion which appears to me forced upon us by the facts—an opinion shared, I suppose, by every man of science in the world.

At Toronto I was addressing an audience, mainly professional. I took occasion to call the attention of my colleagues to the loose thinking and unproven assumptions which pass current as to the actual processes of evolution. We do know that the plants and animals, including most certainly man, have been evolved from other and very different forms of life. As to the nature of this process of evolution, we have many conjectures, but little positive knowledge. That is as much of the matter as can be made clear without special study, as you and I very well know.

The campaign against the teaching of evolution is a terrible example of the way in which truth can be perverted by the ignorant. You may use as much of this letter as you like, and I hope it may be of service.

Very truly,

W. BATESON

The paragraph to which Professor Bateson refers above is the concluding one of his address and runs as follows:

I have put before you very frankly the considerations which have made us agnostic as to the actual mode and processes of evolution. When such confessions are made the enemies of science see their chance. If we can not declare here and now how species arose, they will obligingly offer us the solutions with which obscurantism is satisfied. Let us then proclaim in precise and unmistakable language that our faith in evolution is unshaken. Every available line of argument converges on this inevitable conclusion. The obscurantist has nothing to suggest which is worth a moment's attention. The difficulties which weigh upon the professional biologist need not trouble the layman. Our doubts are not as to the reality or truth of evolution, but as to the origin of *species*, a technical, almost domestic, problem. Any day that mystery may be solved. The discoveries of the last twenty-five years enable us for the first time to discuss these questions intelligently and on a basis of fact. That synthesis will follow on an analysis, we do not and can not doubt.

A certain Dr. Etheridge, of the British Museum, has been widely cited by the Fundamentalists as an "eminent authority." Just who this Etheridge was and the extent to which he represents the British Museum appears from the following letter addressed to Dr. James H. Snowdon, of the Western Theological Seminary, at Pittsburgh, Pennsylvania. Dr. Snowdon had been annoyed by the citation of an "authority" for whose importance he found no one to vouch, and hence wrote to Professor Harmer. A copy of this letter was furnished the writer by Dr. Snowdon for purposes of reference or publication.

British Museum (Natural History)
Cromwell Road
London, S. W. 7
25 July, 1922

Dear Sir:

I beg to acknowledge the receipt of your letter of July 8, referring to an alleged quotation, from some work by Dr. Etheridge, on the subject of Evolution.

This quotation, or a paraphrase of it, is more or less familiar to us, and it is not long since I had to answer another enquiry on the subject from your country. I believe the Dr. Etheridge in question to have been Robert Etheridge, Junr., who was Assistant Keeper of Geology in this Museum from 1881 to 1891. The remainder of his life was spent in Australia, and he died in 1920.

A considerable list of papers by Robert Etheridge the younger is given in the "Catalogue of the Library of the British Museum (Natural History)," vol. II, 1904, pp. 544, 545. A diligent search in the originals might result in the discovery of the quotation, but we should not think it worth while spending much time in looking for it. I regret that I am not in a position to give you the reference. Should you ever discover it I should be obliged if you would let me know.

In one respect your quotation differs from the form in which I last met it. In its present aspect it claims to prove the falsity of the views of those who accept the theory of Evolution. It might be possible for a cautious Biologist to maintain that a theory like this is incapable of exact proof, but it would certainly be equally true that it was incapable of disproof.

Mr. Etheridge's opinion on this subject should not be considered as in any way representing scientific opinion in this Museum. While differences of opinion may exist as to the nature of the causes which have induced Evolution in animals and plants, it is generally admitted that the theory of Evolution, irrespective of the way in which it has been brought about, constitutes the groundwork which entitles Biology to be considered a Science.

I remain,

Yours very truly,

SIDNEY F. HARMER
Director.

The publication of these letters seems justifiable, because in these piping times of reaction, one may

at any time be called upon to definitely refute statements by a more effective means than his personal declaration that an author could only have meant thus and so; or that an alleged authority is no great authority at all, if indeed he made any such statements.

W. C. CURTIS

UNIVERSITY OF MISSOURI

SCIENTIFIC EVENTS

THE MUSEUM OF SCIENTIFIC INSTRUMENTS AT OXFORD UNIVERSITY

THE Museum of Scientific Instruments at Oxford University was declared open by Lord Crawford on May 5. We learn from an article in the London *Times* that it is housed in the Old Ashmolean Building and is the result of the gift to the university by Mr. Lewis Evans of his remarkable collection. These instruments in Mr. Evans's collection have been obtained from many sources during more than 40 years, and the presentation of them to the university has given Oxford a new scientific museum, which is appropriately housed in the beautiful building where the first public museum of its kind was opened in 1683.

Additions to Mr. Evans's collection have been made by several other persons, and some apparatus has been loaned for exhibition by colleges, so that there are now to be seen there instruments of the exquisite workmanship of the Middle Ages together with some of much earlier date, which illustrate the history of many sciences. Specially interesting among these are the portable astrolabes and dials used by travellers to calculate the time by day or night. There are examples of these from times as early as that of St. Paul, and there are specimens of the styles in various countries and centuries down to the times of Columbus and Newton. The collection of 63 astrolabes includes many interesting exhibits, and with those already in Oxford forms the largest and most representative series in the world. The earliest astrolabe is the Persian one of Ahmad and Mahmud, dated 984, the first dated scientific instrument known. The portable dials show the work of makers in all the countries of Europe.

There are several globes of various periods, sets of mathematical instruments, survey instruments, magnets and early compasses, telescopes, microscopes and other optical instruments, and a library containing about 1,000 volumes relating to scientific instruments, astronomy and dialling, about 40 of them being in manuscript. The whole is accommodated in the building, which is believed by many to have been built from plans of Wren for the permanent home of the Royal Society in Arundel Gardens in London.