

series laid thereon, showing conclusively that the bottom was leveled preglacially and that there has been no "erosion."

In view of these facts, which anybody can check, it is germane to the subject to ask Mr. Leverett to kindly be specific and state exactly where this "great erosion" occurred over the "upper Alleghany region."

EDWARD H. WILLIAMS, JR.

ACADEMIC FREEDOM

TO THE EDITOR OF SCIENCE: The dismissal of Professor Willard C. Fisher from the chair of political and social science at Wesleyan University, which has now been made formal and definitive by the acquiescence of the trustees in the action of the president, is an occurrence that shows the need of constant effort and discussion in order to maintain the right of freedom of speech and of teaching. The correspondence between President Shanklin and Professor Fisher, as published in a recent number of SCIENCE (February 14), is on its face sufficient evidence that a teacher who had served the institution for twenty years was summarily removed on grounds that are absolutely trivial and puerile. From various sources which seem reliable the report comes that Professor Fisher's address at Hartford was not the cause of his dismissal, but that the real ground is to be found in the objection felt by the president and some of the trustees of the college to his political and social views. If this is so, it only emphasizes the fact that there has been a serious infringement of the principle of academic freedom. The matter is too serious to be allowed to drop: it seems desirable that there should be protests from universities, learned societies and individuals so numerous as to arouse public opinion and render any similar occurrence impossible in the future. Physical science has fortunately no longer to fear any direct interference from outside authority. It is a long time since Galileo; and even the doctrine of evolution now calls out no protest from any quarter. But the representatives of these sciences will not fail to recognize that

their own cause is bound up with that of the economists and social philosophers who now furnish the chief grounds of offence to the "interests." For freedom of speech and of research can not be limited to certain subjects: science can not exist half slave and half free. I conclude by quoting an extract from an address of President Schurman as reported in the *Cornell Sun* for September 24, 1897, which seems to me a fine statement of principles of which we should never lose sight.

If it is asserted that the business of the college or university is to teach that which the average man may believe, or that which is acceptable to the university, or that which the board of trustees may assert as the truth, the answer must always be that such a course contravenes the very principle on which the university was founded, and however true it may be that the majority must rule in the body politic, the motto of the university must be, one man with God's truth is a majority. There is also a second principle involved in what has been said if all this be true. It is perfectly clear that every teacher must be free to carry out his inquiries and to announce and proclaim if he wishes what he has observed, or in dealing with the individual student the teacher must be free to present all phases of the question as they occur to him—otherwise he has missed his great vocation as a teacher.

Money is needed by universities. I know it well. I know that our board of trustees is constantly wrestling with the problem of how to make both ends meet, how to meet the legitimate demands of the heads of departments and colleges, yet if money is to be got for the institution by the suppression of the truth, by setting any limitation whatever upon the freedom of the teachers to inquire or to announce the results of their inquiries, better a thousand times that the institution should go out of existence. The end of a university is truth and the promotion of truth. Money may be a means to that end, and as a means it may kindle a great light; as an end it can only produce total darkness. Hence any attempt to set limitations upon the independence of the teaching staff must be resisted, must be unwarranted. We need for the advance of civilization the striking out of new ideas or the application of old ideas to new fields. Where are such ideas to be urged, if the business of the university is to teach what is acceptable to the community? All science would be impossible on this theory.

It was perhaps more than a coincidence that this address was delivered soon after the resignation from Brown University of President E. Benjamin Andrews.

J. E. CREIGHTON

CORNELL UNIVERSITY.

SCIENTIFIC BOOKS

The British Tunicata. An Unfinished Monograph by the late JOSHUA ALDER and the late ALBANY HANCOCK, F.L.S. Edited by JOHN HOPKINSON, F.L.S., F.G.S., etc., Secretary of the Ray Society, with a history of the work by the Reverend A. M. NORMAN, M.A., D.C.L., F.R.S., etc. Volume I., 146 pp., 20 pls., 1905; Volume II., 162 pp., 50 pls., 1907; Volume III., 90 pp., 66 pls., 1912. The Ray Society.

With the appearance during the last year of a third volume of Alder and Hancock's researches on British ascidians all that is to be printed of this magnificent work is now available to students. The earlier volumes have been duly noticed by reviewers as they were distributed; but for the sake of completeness it will not be amiss to speak of all three volumes together.

The task of selecting and preparing the manuscript and illustrations must have been both perplexing and laborious, for we are told by Canon Norman in his history of the work which introduces the first volume, that the drawings, particularly those by Hancock, are very numerous and in many stages of completion. The bracketed words, sentences and paragraphs scattered all through the text testify to the extensive and painstaking work performed by Mr. Hopkinson.

Very wisely not much has been added to or subtracted from the work as it left the hands of the authors. The diagnoses of species of the compound ascidians have received more editorial modifications than have those of the simple ones. In a few instances species and genera have been included which did not appear as such in the manuscript, but only where the notes and sketches warranted.

The part played by Canon Norman in bringing the work to the light of day was un-

doubtedly done under the stimulus of personal devotion and direct scientific interest, his friendship for and association with the authors having been intimate and of long standing, and he contributed much, particularly in the way of specimens, to the substance of the monograph. Mr. Hopkinson's rôle seems to have been solely that of an official and a man of science, and what he has done is a fine testimonial to his ability in this way.

Volume I. contains, as mentioned above, a review of the origin and vicissitudes of the work, by Canon Norman; an introduction by the authors; a reprint of Hancock's "On the Anatomy and Physiology of the Tunicata" originally published in the *Journal of the Linnean Society of London* in 1867; and the systematic treatment of all the species of the genus *Ascidia*. Volume II. opens with a life of Alder by Norman, and of Hancock by Embleton, and deals with the remaining genera, *Ciona* and *Corella*, of the family Ascidiadæ, and the families Molgulidæ, Cynthiadæ, and Clavelinidæ. Volume III. treats of the "Aggregatæ," of which three families, Polyclinidæ, Didemnidæ and Botryllidæ, are recognized, and ends with a supplement by Mr. Hopkinson containing "Additional References and Localities"; a "List of the Species described in the Monograph, with the Genera under which they would probably now be placed," and a "General Index."

There can be no question about the value of this monograph, even though it represents the state of knowledge of ascidians as it was forty years ago, and makes no pretense of concerning itself with other than British species. Its chief utility will naturally be as a handbook for British students and other persons who frequent the shores of the British islands. The great number and excellence of the illustrations, particularly those of habitus of the kinds, "forms," varieties and species, mostly by Alder, will make it specially useful in this way. Nearly all the figures, even the anatomical ones from Hancock's faithful brush, are in color. The authors evidently devoted much less time to the compound than to the simple species; and for illustrating