

value when we have learned other things that fit with it and make it complete.

Now, as I said a little while ago, I wish every man engaged in scientific work could tell the story of what he is doing in such a way as to show to ordinarily intelligent men its possible relation to other things than his own immediate specialty, and its possible useful application, and I feel sure that we could get a backing in public sentiment which would show itself in the action of Congress by an increase of appropriations for that kind of work, to the very great advantage of our civilization. It is not the easiest thing in the world to convey a new idea to any mind. I suppose it is true, really, that no man can take in an absolutely new idea. The psychologists tell us of apperception, the coalescence of a new idea with the old state of mind which receives it—the assimilation of a new idea by the group of ideas already in possession. A place must be found in the framework of one's thinking where the new knowledge will fit, or perhaps the new knowledge must be distorted and considerably modified before it can possibly be taken in. I recall the story of a negro boy in Africa who became, I think, a clergyman afterward in his native country. In his stripling days he had been one of the bearers in the caravan of David Livingstone. Livingstone was a man who sat with his servants around the camp fire and talked with them not merely of religion, though he was a missionary, but of anything that would interest them and furnish common ground between his mind and theirs. This negro boy had learned to have great respect for and confidence in the white man, but, as he told the story years afterward, his confidence was seriously shaken when Mr. Livingstone tried to get him and the other black men around the camp fire to believe that in England they had tea kettles that could pull wagons. It was not until many years afterward, while himself riding in a railway car, that he suddenly recalled with amusement the result of his attempt to find a place for the locomotive in the group of ideas already in his mind. Perhaps you may find men in Congress, and elsewhere as well, who can come no closer to what you are trying to tell them about your specialty than that negro boy did to the unfamiliar truth that Livingstone was trying to convey to him. But try it; it can be done; it has been done.

I think I may be pardoned if I say that I have a sixteen year old boy who, about two years ago, came across a scientific book that aroused his interest, and I think that book is going to influence his choice of a profession in life. A few years before some one had given him a toy set known as a chemo-craft set. It contained a few chemicals and a little pamphlet describing some experiments that were spectacular and would attract the attention of a boy. His inter-

est, aroused in that way, continued. About two years ago he saw on my desk a book called "Creative Chemistry" which he could read and understand. Science needs a press agent, and in Washington you have him. I believe that boy is going to be influenced all his life and his tastes will be developed along the lines of the book written by Dr. Slosson.

That is an example of what I have been trying to say. It is necessary to make your work understandable to the man who is not a specialist in your line, but who has some intelligence. You can not express everything with perfect accuracy without using technical language, but most men can not carry away a thoroughly accurate impression even if a matter is minutely and accurately explained; so sometimes a teacher has to content himself with giving an approximate idea of the truth. Let us speak the English of the streets, and give the ordinary man a chance to understand what we are doing.

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## SCIENTIFIC EVENTS

### BRITISH EXPEDITION TO EAST AFRICA

ACCORDING to an article in *London Times* during the years that part of East Africa was under the jurisdiction of the Germans a large number of specimens of a gigantic dinosaur were raised and transported to Berlin. For the past four or five years the trustees of the British Museum have had under consideration the proposal to send a small expedition to East Africa, with the view of exploring the fossil remains that occur there, especially these large dinosaurs, as it would be of the greatest interest to correlate them with similar remains which have been known for many years from the Jurassic rocks of Wyoming.

Sufficient funds have now been got together to enable a start to be made, and early last autumn the trustees secured the services of Mr. W. E. Cutler, of the University of Manitoba, to lead the expedition. He sailed from Marseilles on February 28.

Mr. Cutler has for many years had an unrivaled experience of collecting for the British Museum and other museums large dinosaurian and similar fossils in North America, and is therefore conversant with the methods of extracting the specimens from the matrix and packing them in such a way as to withstand the strains and stresses of the journey to the museum.

Since it was desirable that Mr. Cutler should have in the party at least one white assistant, the trustees arranged for Mr. L. S. B. Leakey, of St. John's College, Cambridge, to accompany him. He was born in Kenya Colony, and his home is still there, his father being a clergyman near Nairobi. His knowledge of

the natives and their languages will promote the smooth working of the expedition. So far as opportunity affords and time permits, Mr. Leahey will collect other natural history specimens, such as birds, mammals and plants.

The site which was originally worked by the Germans, and where the large dinosaur known as *Gigantotaurus* was found, is at Tendaguru, about 50 miles, or four days' march, slightly west by north of Lindi, which is an open roadstead near the southern extremity of Tanganyika. Large steamers call only at Dar-es-Salaam, but there is a fairly frequent coastal service between that port and Lindi. The site has in the course of years become overgrown with vegetation, and the neighborhood is almost uninhabited, but no great difficulty is anticipated in opening up the site again.

There is another site about two miles east, in the Mbemkuru valley, where remains of *Gigantotaurus* were discovered by Major Pretorius; this will also be investigated. The working season extends from early May until the end of December. During the wet season, when about 17 inches of rain falls, exploration and transport are practically impossible.

Sir Horace Byatt, the Governor of Tanganyika Territory, has promised such help and facilities as the administration can provide. The trustees hope that funds will permit and results warrant the exploration being continued for at least two seasons.

### THE USES OF WATER

THE third symposium of the year at Harvard University, under the auspices of Gamma Alpha, the scientific society, which had for its subject "The Nature and Uses of Water," was held on March 4, in the Harvard Union.

Professor Alexander McAdie, meteorologist and director of the Blue Hill Observatory, spoke about water in the air, his title being "Rain, hail and snow." The talk was illustrated with lantern slides, and Professor McAdie made one experiment, that of weighing the collective breath of the audience. He discussed also the causes of floods and conditions determining droughts, and various schemes for making rain.

Professor Reginald A. Daly considered the geological history of the ocean, with the title "Ancient and modern oceans." He dwelt briefly on the origin of the visible water of the globe, the changes in the composition of the ocean and in its extent, with a glance at the problem of the distortion of the earth's body, at tidal friction and its consequences.

With the subject "Man's control of water," Dr. George C. Whipple, professor of sanitary chemistry in the Harvard Engineering School, showed how large a part water has played in man's existence on the

earth, how man's control of water has advanced with engineering science and led to stabilization of population and the opening up of large areas for habitation. He took up also control of the quality of water, involving chemistry and water purification, and finally the establishment of legal principles because of man's use and control of water.

The symposium was held at 8 p. m. in the Harvard Union, under the auspices of Gamma Alpha, the scientific society, and was open to the general public.

### THE MANUFACTURERS ASSOCIATION OF CONNECTICUT AND YALE UNIVERSITY

A PLAN for the cooperation of Yale University and the Manufacturers Association of Connecticut in industrial research and educational work has been developed under the leadership of a committee composed of John H. Goss, of Waterbury; E. Kent Hubbard, of Hartford; L. S. Tyler, of New Haven; Howell Cheney, of South Manchester, and Samuel Ferguson, of Hartford, working with a committee representing Yale University, consisting of Dean Charles H. Warren, Professor L. P. Breckenridge (later succeeded by Professor S. W. Dudley) and Professor F. E. Spaulding.

The plan for cooperation aims to enable the industries of the state to secure greater access to the facilities that the university possesses for the carrying on of scientific and technical research, and for manufacturers to secure more easily the services of young men technically trained along the lines of special importance to their particular industries. On the other hand, it aims to afford the university an opportunity to render a more effective service to the community; to bring its students and staff into closer contact with the practical applications of science to industry through the investigation of problems arising in the industries; and to afford its students better opportunities for securing practical experience by actual work under supervision in manufacturing plants during vacation time.

For many years past the university, chiefly through its scientific and engineering departments, has cooperated with individual manufacturers in carrying out technical and scientific investigations in a number of different fields. These investigations have been carried out by members of the staff, or under their direction, and have frequently furnished results of value to the particular industry concerned and to science and technology in general.

It has not, however, been generally known, particularly among the smaller manufacturers more remote from the larger industrial centers, that such work was being done or that it could be done. Under the plan developed by the university and the association it is