

goodly constituency. They are glad to teach what they have learned by research to any one who cares to learn. They are preserving archeological sites, specimens and records for future research and for educational purposes. Practically all this result has been secured in a period of less than five years.

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NATURE AND MAN.¹

PROFESSOR LANKESTER in his Romanes lecture began by a statement of the theory of evolution, directing attention to unwarranted inferences commonly drawn by clever writers unacquainted with the study of nature. He described how the change in the character of the struggle for existence, possibly in the Lower Miocene period, which favored an increase in the size of the brain in the great mammals and the horse, probably became most important in the development of man. The progress of man cut him off from the general operation of the law of natural selection as it had worked until he appeared, and he acquired knowledge, reason, self-consciousness and will, so that 'survival of the fittest,' when applied to man, came to have a meaning quite different from what it had when applied to other creatures. Thus man can control nature, and the 'nature searchers,' the founders of the Royal Society and their followers, have placed boundless power in the hands of mankind, and enabled man to arrive at spiritual emancipation and freedom of thought. But the leaders of human activity at present still attach little or no importance to the study of nature. They ignore the penalties that rebellious man must pay if he fails to continue his study and acquire greater and greater control of nature.

Professor Lankester did not dwell upon the possible material loss to our empire which may result from neglect of natural science; he looks at the matter as a citizen of the world, as a man who sees that within some time, it may be only 100 years, it may be 500 years, man must solve many new problems if he is to continue his progress and avert a return to nature's terrible method of selecting the

fittest. It seems to us that this aspect of the question has never been fully dealt with before. Throughout Huxley's later writings the certainty of a return to nature's method is always to be felt. Professor Lankester has faith in man's power to solve those problems.

The dangerous delay now so evident is due to the want of nature knowledge in the general population, so that the responsible administrators of government are suffered to remain ignorant of their duties. Professor Lankester shows that it is peculiarly in the power of such universities as Oxford and Cambridge, which are greatly free from government control, to establish a quite different state of things from that which now obtains in England. He says:

The world has seen with admiration and astonishment the entire people of Japan follow the example of its governing class in the almost sudden adoption of the knowledge and control of nature as the purpose of national education and the guide of state administration. It is possible that in a less rapid and startling manner our old universities may, at no distant date, influence the intellectual life of the more fortunate of our fellow citizens, and consequently of the entire community.

Considering Oxford more particularly, and speaking for others as well as himself, he says:

The University of Oxford by its present action in regard to the choice and direction of subjects of study is exercising an injurious influence upon the education of the country, and especially upon the education of those who will hereafter occupy positions of influence, and will largely determine both the action of the state and the education and opinions of those who will in turn succeed them.

As to Greek and Latin studies, he says:

We have come to the conclusion that this form of education is a mistaken and injurious one. We desire to make the chief subject of education both in school and in college a knowledge of nature as set forth in the sciences which are spoken of as physics, chemistry, geology and biology. We think that all education should consist in the first place of this kind of knowledge, on account of its commanding importance both to the individual and to the community. We think that every man of even a moderate amount of education should have acquired a sufficient knowledge of these sub-

¹ From *Nature*.

jects to enable him at any rate to appreciate their value, and to take an interest in their progress and application to human life.

He points out that it is only in the last hundred years that the dogma of compulsory Greek and the value of what is now called a classical education has been promulgated. Previously, Latin was learnt because all the results of the studies of natural philosophers were in that language.

It is evident that Professor Lankester includes in his study of nature the study of intellectual and emotional man through history, biography, novels and poetry, but we think that he made a tactical mistake when he neglected to state this clearly. It seems to us that besides the study of nature, the most important thing in a child's education is to make him fond of reading in his own language, for this leads to a future power to make use of books and self-education for the rest of his life. When Professor Lankester doubts the value of the study of history he is evidently doubting the value of that study as carried on at Oxford, and surely no person who has read the scathing criticism of Professor Firth will disagree with him. When he speaks of a reform being possible, it may be that he is taking into account a movement of which but little is known outside Oxford itself, the growing indignation of the average undergraduate at being made to pay extravagant sums of money for tuition which is mischievous.

The readers of *Nature* are well acquainted with the views put forward in this address. Huxley and many others, dwelling, perhaps, more upon material loss to our empire, have published them over and over again, but we do not think that anybody has ever presented them with so much grace of style or so much of an endeavor to secure the good-will of his audience as Professor Lankester. But, alas! we fear that this fine address will share the fate of many others!

When, thirty-three years ago, Japan began her new career, there were a few people like Ito clever enough to see and say that the study of ancient classics alone, to the neglect of the

study of nature, meant ruin to the country; but such ideas would never have been adopted had not Japan been in deadly peril. All the nations of Europe bullied and insulted her, and it was only their mutual jealousies which saved her from complete subjugation. In the presence of that peril the pedants held their peace, and everybody saw the necessity for an immediate, radical reform. In time nature was studied by every child in Japan, and in consequence scientific methods of thinking and acting have permeated the whole nation. All ancient and modern European literature is open to the Japanese who knows English, and English is the one language other than Japanese which every cultured man must know. In the matter of self-protection, any one can see the result. Because the Japanese have studied nature their scientific officers and men have marched or sailed to victory in every engagement; their statesmen will do exactly what is best for Japan in the negotiations for peace; their country will quietly take its place as one of the first-class powers of the world, and every person who knows anything about Japan is quite sure that ambitious, wrong-headed schemes of conquest are altogether impossible to the scientific minds of the Japanese.

If Japan had not been in great danger we know that she would not have taken to nature-study, and some of us think that it may need a state of danger in England to produce the necessary desire for reform. The South African muddle was worried through, and almost everybody seems to think that all such muddles may also be worried through, but some of us think that we may not always be so lucky. Danger is close enough even now, and we can only hope that if it becomes great it may grow slowly enough to let us learn something from the object-lesson which is being given us day by day in the news from Russia and the far east.

Fain would we hope that Oxford will pay attention to what has been said by one whom some of us regard as her cleverest son; but, alas! we have no such hope. Oh, Shade of Clough, how can we help saying that 'the

struggle naught availeth' when your own best admirers seem unable to think for themselves?

JOHN PERRY.

SCIENTIFIC NOTES AND NEWS.

DR. WILLIAM J. MAYO, surgeon of the St. Mary's Hospital, Rochester, Minn., has been elected president of the American Medical Association.

DR. WILLIAM H. NICHOLS, of New York, gave the presidential address before the Society of Chemical Industry at its general meeting in London on July 10. Dr. Edward Divers, F.R.S., was elected president of the society for the ensuing year.

FREDERIC S. LEE, PH.D., professor of physiology in Columbia University; Martin H. Fischer, Ph.D., assistant professor of physiology in the University of California, and George T. Kemp, Ph.D., professor of physiology in the University of Illinois, have been elected associate members of the American Medical Association.

THE *Révue de médecine et d'hygiène tropicales* announces that Dr. Ch. Wardell Stiles, of the Public Health and Marine Hospital Service, has been elected an honorary member of the Société de Médecine et d'Hygiène Tropicales of Paris, France.

DR. GEORGE T. MOORE, physiologist and algologist, in charge of the laboratory of plant physiology of the Department of Agriculture, has resigned.

DR. GISEBERT KAPP, who has accepted a professorship in electrical engineering at the University of Birmingham, has resigned as general secretary of the German Association of Electrical Engineers and as editor of the *Elektrotechnische Zeitschrift*. His successor as general secretary is Dr. Georg Dettmar, and his successor as editor of the *Elektrotechnische Zeitschrift* is Dr. E. C. Zehme.

WE learn from the *Bulletin of the American Mathematical Society* that Professor H. Taber, of Clark University; Professor H. F. Blichfeldt, of Stanford University, and Professor W. D. Cairns, of Oberlin College, will spend next year at European universities.

M. M. J. DYBOWSKI, French inspector general of agriculture for the colonies, has been made an officer of the French legion of honor.

On the occasion of the recent celebration of the fourth centenary of the Royal College of Surgeons, Edinburgh, the honorary fellowship of the college was conferred upon the following: Professors Anton, Freiherr von Eiselberg and Ernst Ruchs, Vienna; Professor Sylvester Saxtough, Copenhagen; Professor Felix Guyon Just Lucas Camponnière, Paul Segond and Louis Felix Terrier, Paris; Professor à Poucet, Lyons; Professors Ernst von Bergmann and Franz König, Berlin; Professor August Bier, Bonn; Professor Vincenz Czerny, Heidelberg; Professor Francesco Duranti, Rome; Baron Yosuzumi Saneyoshi, Japanese navy; Maxim Semenovic Subbotin, chief of the surgical clinic, Military Hospital, St. Petersburg; Professor Lennander, Upsala; Professor Kronlein, Zürich; Professors William Stewart Halstead and Howard Kelly, Baltimore; Professor Keen, Philadelphia; Dr. William J. Mayo, Minnesota; Professor Charles McBurney, Columbia University, and Professor J. C. Warren, Harvard University.

At the recent commencement of Amherst College the degree of master of arts was conferred by President Harris on Mr. Lundin. He said: "Carl Axel Robert Lundin, scientific expert in cutting and fashioning glasses of great telescopes. He has done important work on the large objectives of Russia, of the Lick and Yerkes observatories, and lately on the 18-inch objective of the Amherst College observatory, which is wholly his work. In 1854 Amherst conferred the degree of master of arts on Alvan Clark, who had built our first telescope. The same degree, for a similar service, is conferred on his successor, who has kept pace with the progress of astronomical science."

THE seventieth birthday of Professor G. Merkel was celebrated at Nuremberg, on June 29. He was presented with a *Festschrift*, and with a portrait bust by his former students and the Erlangen medical faculty.

DR. SWALE VINCENT, Winnipeg, professor of physiology in the medical faculty of the