

state in which the archeologic collections are is exactly the same, I suppose—no worse. Mr. Kozevnikoff (the curator) is a zoologist.

Part of my time was dedicated to work among the natives (folklore and collections) and part to excavation of the Bronze age mounds (kurgans) under the directions of Professor S. Rudenko—Professor Volkov's pupil and his successor at the University of Petrograd now. (By the way, I suppose you have heard that Volkov, Radloff, Princes Oukhtomsky—son and his father quite recently—are no more).

Last summer we spent a couple of months with the Kirghiz of the Turgai region, "taking stock," so to say, of possibilities for work on a larger scale, if circumstances permit. Anthropometric measurements (800 individuals) and 2-3 Neolithic stations were among the results.

Next spring and summer I may return to the Kirghiz—they are in my department at the Russian Museum with which I am now scientifically connected.

In spite of unfavorable conditions and difficulties scientific work in Russia has not ceased to progress, and scientists of all classes continue their field and home studies with all the energy they are capable of. There is one great privation of which we are acutely sensible, and that is—book famine. We are so thoroughly isolated that scarcely any literary news comes filtering through the frontier. The appearance of a copy of some comparatively fresh publication from the outside world becomes known immediately to the circles interested in its subject, is welcomed with joy and every one tries to get at the book and have it lent to him for a time; individual book, periodicals, pamphlets, all one.

Without knowing what goes on elsewhere in science one feels like going about with plugs of cotton wool in one's ears.

Now, Professor Rudenko, with whom I am on very friendly terms, begs me to put a businesslike question to you in a quite unofficial way.

During your stay in Petrograd in 1912, you spoke to Professor Volkov and Pr. Oukhtomsky of the desirability of establishing here a bureau for the exploration of the northeastern portions of Siberia by Russians with American cooperation. Having this idea of yours in mind, Rudenko, who is now the curator of the Siberian Department and is proposed to the post of director of the Russ Museum,¹ would like to know whether you still think this project practicable, and if so would your or any

other institution wish to participate in the realization of a series of expeditions to the Far East (Mongolia, the Amur region, Central Siberia) which would make it possessor of scientific results and collections. The Russ Museum has a sufficient number of well qualified explorers. The question of fitting them out for the field may prove difficult in some respects; but such difficulties would be easily allayed if the work were planned on the principles of cooperation.

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DOCTORATES IN AGRICULTURE

IN SCIENCE, Vol. LV, page 271, appears an article by Callie Hull and Clarence J. West on "Doctorates conferred in the sciences by American universities in 1921." Three theses are listed for the subject of agriculture. There are in universities, generally, no departments of agriculture, but colleges of agriculture consisting of departments using methods of their own development and methods of the different sciences in studying agricultural problems.

Students being trained for work in such departments are listed in the article mentioned as having done their work primarily in bacteriology, botany, chemistry and zoology, perhaps because the titles indicate that the methods of these sciences were used. The fact remains, however, that they were preparing to study agricultural problems. Thus, at Cornell University alone, at least fifteen of the persons named under these four sciences were working in the College of Agriculture, preparing to study agricultural problems. And from the titles, I can be certain of at least four such men for other universities.

If no names had been listed under the subject of agriculture, no harm could have been done, but to list a subject of agriculture with only three names, it seems to me, might leave the impression that, with the great development of the agricultural colleges, there is very little tendency for workers to secure the training necessary to attack problems in an effective way. I believe that every one acquainted with the conditions in the colleges is convinced that there is a very hopeful development of graduate work and that the number of young men who are securing sound training for effective

¹ Formerly the Museum of Alexander III.

work in agricultural subjects gives promise of very sound and rapid growth in agricultural research.

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THE WRITING OF POPULAR SCIENCE

TO THE EDITOR OF SCIENCE: The letters of Dr. Dorsey and Dr. Slosson, which have appeared in SCIENCE, raise questions that have perplexed both scientists and editors of popular scientific magazines. Neither Dr. Dorsey nor Dr. Slosson, in my opinion, has struck at the root of the matter.

So long as the standards of American journalism are what they are, it will be difficult to enlist the whole-hearted cooperation of scientific men in popularizing the results of their researches. A distinguished biologist put the matter thus to me a few years ago: "*We do not mind being popularized, but we do mind being made ridiculous!*"

And there we have the whole truth in a nut-shell. Consider these facts which have come under my notice:

In the basement of the Bureau of Standards is an electric furnace used for conducting experiments at high temperatures. A Washington reporter, in quest of good red journalistic meat, was permitted to see that furnace in operation. On the following day there appeared an article from his pen in a Washington newspaper under the title, "Bureau of Standards Has Little Hell in Basement." Is it any wonder that the men in the Bureau of Standards look at him askance now?

During the days when Halley's comet was the subject of almost daily newspaper articles, about twenty Chicago reporters camped on the grounds of the Yerkes Observatory. Fearing complete misrepresentation of the work that they were doing, the members of the observatory staff granted no interviews. Finally, one ingenious reporter suggested that he be permitted to photograph the entire staff on the steps of the observatory. Inasmuch as all the reporters had been treated rather haughtily, it seemed as if this harmless request might be granted. Accordingly, the staff posed. Two days later, there appeared in a Chicago news-

paper a photograph of one of the astronomers—a distinguished telescopic observer—seated at the eye piece of the huge Yerkes refractor, but in a position outrageously absurd. His photograph had been cut out of that made on the observatory steps, pasted upon a lifeless picture of the refractor, and the whole reproduced, with results that astonished every astronomical observer who saw the newspaper. The observatory staff was kept busy explaining to its colleagues all over the country how this absurdity was perpetrated.

Washington scientists surely have not forgotten the great injustice done to Samuel P. Langley at the time when his historically important experiments with his man-carrying airplane were conducted. If ever a scientist's life was embittered and shortened by gross newspaper misrepresentation, it was Langley's.

Our newspapers and magazines are right in demanding what they call "human interest." It is what science does for mankind that is interesting. The best popularizers of science have always been humanly interesting—particularly the men who have had theories to propound which were not readily accepted by their colleagues.

The campaign waged by Darwin and his colleagues was a conspicuous example of sound popularization. But our newspapers and magazines ride human interest too hard. The one thing that seemed to strike our reporters about Einstein was the fact that he smoked a pipe and that his hair was disheveled. At the moment, I do not recall more than two articles on Einstein in the newspapers that pointed out the tremendous practical significance of his theory of relativity—the fact that chemists, physicists, engineers and astronomers must henceforth reckon with time, space and motion in a new way. What Edison eats for breakfast seems to be of more importance than what Edison has actually achieved. So long as our newspapers publish simply gossip and the news of death and destruction, we have little to hope from them. If anyone were to write a history of the United States one hundred years hence, with no other information before him than that contained in current newspapers, he would inevitably draw the conclusion that Americans of our day led scandalous private lives and