

to help in any investigation that looked to the better condition of growing crops or of improving the land. He covered a wide range in those investigations and was sometimes criticized for matters that were not understood or seemed of small importance to ordinary interests. He was an excellent teacher and interested his pupils in the subject at hand, sometimes pretty dry, and did everything possible to give those matters a practical turn. His methods were clear and concise and he had little sympathy with slack work.

He was observant of current events and always spoke his mind freely in comment. He never "played to the galleries" but expressed his opinion of affairs as they appeared to him.

The Bussey Institution never had much money to carry on its work. Professor Storer was thus hampered by lack of funds and he was unfortunate in not having the faculty for getting help of this kind. He drew freely from his own funds, which could not have been over large, to help the school and the individual students.

In social intercourse he was never forward at all. His wife was a great help to him in this way, and they together did many kind acts to a newly appointed instructor at the Bussey Institution. On her death he drew into himself more than ever and had little intercourse in an every-day way with others.

Professor Storer's work is of the greatest importance in agricultural chemistry; in a way it is the foundation of modern agricultural chemistry. When he began, it was all new and he made the beginning.

ROBERT H. RICHARDS

BOSTON, MASS.

#### THE ANTWERP ZOOLOGICAL GARDEN

FROM the date of the bombardment of Antwerp, apprehension has been felt regarding the fate of the beautiful and costly zoological garden of that city. Messrs. Lorenz and Heinrich Hagenbeck, both of whom are yet in Hamburg, alive and well, have furnished the *Bulletin* of the Zoological Society of New York with a copy of a letter received by them from

Dr. Buttikofer, director of the Rotterdam Zoological Garden, which reads as follows:

All the bears in the Antwerp Zoological Garden were shot prior to the bombardment. The large feline carnivora were put into strong transportation cages and removed to the rear of the garden, likewise prior to the bombardment, while the small felinæ were transferred to cages in the cellars of the Festival Building. A few days before the surrender of the city, when the heavy cannonading started fires in all parts of the city, which could no longer be put out in consequence of lack of water, the large carnivora were likewise shot by resolution of the board of directors, *adopted contrary to the director's advice*. None of the other animals were killed, with the exception of a few venomous snakes. During the bombardment only one shell dropped into the garden, striking the ground in the open space for the turtles, where it fortunately did no material damage. Mr. L'hoest and his two younger children were my guests from October 5 to the earlier part of November, while the other members of his family likewise came to Rotterdam towards the end of the bombardment. Mr. L'hoest himself, whose mind had suffered severely from the effects of the terrible excitement and of the successive events which overpowered him, also came to Rotterdam for a few days, after the bombardment.

By the earlier part of November all the members of the family had returned to Antwerp.

The garden and the animals kept there have suffered no further damage during the siege, but you will readily understand that the number of visitors has so decreased as to be practically nil, while the membership will undoubtedly be reduced to such an extent that the very existence of the garden will apparently be put into serious jeopardy.

Everything here is in good shape, although there has likewise been a large decrease in our receipts, which compels us to be exceedingly economical. I presume that similar conditions prevail in all the zoological gardens in Germany, as well as in your country.

#### BENJAMIN PEIRCE INSTRUCTORSHIPS IN MATHEMATICS

THE Division of Mathematics in Harvard University announces that hereafter on or about the first day of March in each year it will recommend two persons for appointment to Benjamin Peirce Instructorships in accord-

ance with the following regulations recently adopted by the president and fellows of Harvard College, provided suitable candidates make application: (1) Appointments shall be made by the president and fellows on recommendation of the division of mathematics. Each appointment shall be for one academic year and shall carry a remuneration of not less than \$1,000 nor more than \$1,200. (2) A holder of an instructorship may be a candidate for reappointment, but no person shall hold an instructorship for more than three years. (3) Each instructor will be expected to teach two and one half elementary courses and one other course which would ordinarily be of an advanced character. (4) Instructors will be permitted to attend without charge all courses of instruction under the faculty of arts and sciences, and to enjoy the same library privileges as other instructors. They will be offered every facility towards the prosecution of original scholarly work, the members of the division being ready to give all possible aid and encouragement. (5) A candidate for an instructorship in any academic year must present his name to the chairman of the division on or before the first of February of the previous academic year. He should offer at the same time evidence of his capacity as a scholar and a teacher. For this purpose he should present such documents as: (a) a dissertation accepted towards the fulfilment of the requirements for the degree of doctor of philosophy; (b) published contributions to mathematical science; (c) certificates as to his ability and success as a teacher; (d) personal letters relating to his character and qualifications for the post.

In amplification of the above regulations it may be pointed out that these newly-established Benjamin Peirce Instructorships afford an unusual opportunity for young men of good training and ability at or near the beginning of their teaching career. The appointments are made on the basis of an open competition; Harvard has one of the best mathematical libraries in the country; the amount of work required is very moderate (the "course" at Harvard being three fifty-five-minute periods

a week throughout the year) and includes opportunity for advanced teaching. This advanced instruction will be on subjects selected in consultation with the instructor and, so far as possible, in conformity with his wishes. By exception applications will be accepted in 1915 as late as February 15. For further information address Professor Maxime Bôcher, chairman of the division of mathematics, 48 Buckingham Street, Cambridge, Mass.

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#### COMMERCIAL GEOGRAPHY AND WORLD POLITICS

DR. ARTHUR DIX contributes to the *Geographische Zeitschrift* for June 11 an article with this title indicating a German point of view prior to the outbreak of the war. As summarized in the *Geographical Journal* he states that the tendency for inland communities to seek an outlet to the sea is becoming so marked that, with rare exceptions, such powers must now be regarded as in a state of unstable equilibrium. Such states in the general case must, in his opinion, either submit to be absorbed by the neighboring power which blocks the road to the sea, or must forcibly seize a stretch of seaboard. He gives Asia as an example of a continent in which independent inland states have now practically ceased to exist, Africa as one in which they are gradually disappearing. The Transvaal and the Orange Free State are given as examples of countries which, as soon as they acquired extensive relations with the world market, fell as booty to a neighboring power. As examples of two inland states which must in the immediate future undergo political change he gives Abyssinia, which he regards as being probably destined to fall into the hands of Britain, and Servia, which must, he thinks, fight for her free access either to the Adriatic or the Aegean. Secondly, great powers which have already one outlet to the sea tend to seek a double access. France has of course this double access already, but the founding of the triple alliance, the recent history of the Russian Empire, the opening of the Panama Canal, some of the difficulties among the various powers in Africa, the troubles in the Balkan