

WE learn from the *Journal* of the American Mathematical Society that the technical staff of the United States Ordnance Department has been authorized to secure the services of five experts in mathematics and dynamics, at salaries ranging from \$2,500 to \$5,000, to conduct scientific research on ordnance problems, act as advisers on all mathematical and scientific problems, for the ordnance department, and keep up connections between the department and the scientific world.

UNIVERSITY AND EDUCATIONAL NEWS

GEORGE EASTMAN, head of the Eastman Kodak Company, has given the sum of \$3,500,000 for the establishment of a school of music in connection with the University of Rochester. The school will aim to aid the development of an appreciation of the highest type of motion pictures as an ally of the highest type of music.

It is stated in *Nature* that to a private deputation from the Education Committee of the Parliamentary Labor party, which urged upon him the desirability of an inquiry into the organization and financial position of the universities of Oxford and Cambridge, Mr. Fisher has made the announcement that the government has decided to appoint commissions to inquire into the position of the universities of Oxford and Cambridge. At both universities the existing resources have proved inadequate to meet the increased cost of maintenance of the various departments, and a few months ago the authorities of each independently applied to the government for financial aid. In reply to these requests Mr. Fisher, on behalf of the government, stated that such grants out of Parliamentary funds could be sanctioned only on the condition that in due course comprehensive inquiries into the whole resources of the universities and their colleges and the use made of them should be instituted by the government. The Cambridge senate on May 31 authorized the vice-chancellor to inform Mr. Fisher that the university would welcome a comprehensive inquiry into its financial resources, and at Oxford a similar decision was taken by convocation on June 10.

DR. ERNEST SACHS, hitherto associate professor of surgery in the medical school of Washington University, St. Louis, has been appointed professor of clinical neurological surgery in the same institution. This is the first instance in which any medical school has recognized neurological surgery by creating for it a separate department.

DR. L. J. GILLESPIE, of the Bureau of Plant Industry, has been appointed professor of physical chemistry in Syracuse University.

DR. N. A. LANGE, formerly instructor in organic chemistry at the University of Michigan has been appointed assistant professor of organic chemistry at the Case School of Applied Science, Cleveland.

DR. HARRY D. KITSON, instructor in psychology at the University of Chicago, has accepted the position at Indiana University made vacant by Professor E. C. Lindley, who accepted the presidency of the University of Idaho.

DR. CLIFFORD H. FARR has resigned his position in the Bureau of Plant Industry to accept appointment as assistant professor of plant physiology in the University of Iowa.

At the University of Georgia, Paul Weatherwax, Ph.D. (Indiana), has been appointed associate professor of botany with special reference to physiology and genetics. Joseph Krafka, Jr., Ph.D. (Illinois), has been appointed associate professor of zoology, and John Moore Reade, Ph.D., professor of botany, has been made director of the biological laboratories.

APPOINTMENTS for next year at the college of arts and sciences, University of Buffalo, include the following: Daniel B. Leary, formerly head of department of education at Tulane University, to be professor of psychology and instructor in Russian; Edward J. Moore, associate professor of physics at Oberlin College, to be professor of physics, and Albert R. Shadle, assistant professor of zoology at Cornell, to be assistant professor of biology.

PROFESSOR A. FINDLAY, professor of chemistry, University College of Wales, Aberystwyth,

has been appointed to the chair of chemistry in the University of Aberdeen in succession to Professor Frederick Soddy.

SIR J. J. THOMSON, master of Trinity College, Cambridge, who recently resigned the Cavendish professorship of experimental physics, has been elected into the newly established professorship of physics. This professorship is without stipend, and will terminate with the tenure of office of the first professor unless the university determines otherwise.

DISCUSSION AND CORRESPONDENCE FIRE-WALKING IN JAPAN

DURING my four years' residence in Japan I had several opportunities of witnessing the spectacular religious or quasi-religious ceremony periodically observed at the Ontake Temple, Tokyo, in the course of which the officiating priests walk barefoot over a bed of live charcoal, throw boiling water over themselves and climb a ladder of sharp swords set edge upward. All these pretended miracles, however, are susceptible of scientific explanation, and it is only with regard to the first-mentioned—the fire-walking—that I venture to ask the privilege of making a brief statement in SCIENCE.

To the great mass of the spectators in the temple enclosure, who do not usually include more than the merest sprinkling of the more intelligent and better educated classes of the Japanese people, the supposed miracles are the clearest demonstration of the supernatural power of the priests, who would have it believed that it is solely to their incantations that they owe their protection from injury. But it is not necessary to be a very close observer of their movements to perceive that the priests are not content with their perambulations, genuflexions and prayers, but are careful to rub their bare feet with salt, *ostensibly for purificatory purposes*, before walking over the fire. This fact brought to my recollection the occasion, forty years ago or more, when Tyndall astonished a distinguished audience at the Royal Institution by plunging his bare arm into molten metal, the then Prince of Wales, afterward King Edward VII., who was

present, being prevented from following Tyndall's example only by the determined opposition of his wife.

So sure did I feel of the efficacy of the salt as a protective agent that on my second visit to the temple I determined to follow the priests in their apparently hazardous adventure, and so after rubbing my feet well in the pile of salt, I walked rapidly over the bed of glowing coal, some eighteen feet long. My confidence was not misplaced. In my feet I felt only a sensation of gentle warmth, but my ankles, to which no salt was applied, were scorched.

After a careful examination of such of Tyndall's works as I had access to at the Yokohama Club, without finding any reference to the demonstration at the Royal Institution, I wrote to Sir William Crookes, who not long before had mentioned to me his association with Tyndall in some of the experiments that preceded the delivery of the latter's famous "Lectures on Light." In due course I received Sir William's reply, in which after reference to certain matters of no special interest in this connection, he said:

I do not know of any published account of Tyndall's putting his bare arm into molten metal, but I can well believe it, as I myself have plunged my hand into molten, almost red-hot, lead. I was in a profuse perspiration at the time, and, immediately before, I dipped my hand into strong ammonia, to increase the spheroidal effect. I do not think the extra precaution was of much use, but I did not like to take a risk when looking at the cauldron of hot metal.

To physicists there is nothing new in all this, but not every scientific man is a physicist, or hypnotism would not have been suggested to me, as it has been, as the secret of the remarkable immunity I experienced.

JOHN HYDE

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MARCHING IN STEP

TO THE EDITOR OF SCIENCE: In regard to Walter Moore Coleman's note in the April 18 number of SCIENCE concerning variations in phase in the step of a column of soldiers it