SCIENTIFIC EVENTS

THE ROYAL SOCIETY AND HEAVY HYDROGEN

THE *Times*, London, reports that the rooms of the Royal Society were crowded on December 14 for a discussion on heavy hydrogen. This discovery, which was characterized as one of the most important of the present century, is of interest not only for physics and chemistry, but for botany, physiology and medicine.

Lord Rutherford, who opened the discussion, suggested the name diplogen for heavy hydrogen and the name diplon for the nucleus of the atom of heavy hydrogen. Hitherto the name deuterium has been used for the former, and deuton, or deuteron, for the latter. Lord Rutherford acknowledged that the name given by a discoverer was generally adopted by the scientific world, but he regarded the question as of great scientific importance in the case of heavy hydrogen, and thought that deutons were liable to be confused with neutrons—especially if one had a cold. As neutrons were involved in any discussion of heavy hydrogen, the question of confusion was very pertinent.

The president of the society, Sir F. Gowland Hopkins, invited speakers to express their opinion on this point. Dr. N. V. Sidgwick gave strong support to Lord Rutherford's terminology. He said he was present at the Chicago meeting when the discovery was announced, and terminology caused great difficulty. When a missing element was recently discovered, it did not matter much how it was called—"Florentinium" or "Mussolinium"—because they would come across it so seldom, but heavy hydrogen was another matter.

Dr. F. W. Aston also supported Lord Rutherford's terminology. He thought, from his remembrance of the Chicago meeting, when the discussion tended to become acrimonious, that the Americans would not take kindly to it. While there he spoke to Professor Bohr, who thought that as the substance was hydrogen it ought to be called hydrogen. Dr. Aston admitted that a discoverer was allowed to give a name to what he had discovered, but denied that the scientific public were under any obligation to use it. He instanced Uranus, which was originally called Georgium Sidus by William Herschel, and said that the word isotope and his own mass-spectrograph had changed in meaning since they were first put forward.

In the discussion on the properties of heavy hydrogen, Lord Rutherford gave details of a new diffusion process by which it has been obtained in small quantities without any trace of ordinary hydrogen. He also referred to the structure of the diplon, and said the most obvious suggestion was that it consisted of two protons and an electron, but it might consist of a proton and a neutron. He had bombarded heavy hydrogen with alpha-particles from polonium, and the neutrons obtained were only one per cent. of those obtained when beryllium was similarly bombarded.

Dr. Hartek exhibited specimens of ordinary water and heavy water, and illustrated the difference in their freezing points.

Professor F. Soddy said he wanted to protest as forcibly as he could against the description of heavy hydrogen as an isotope. He had not seen any evidence that we were not dealing with something like the difference between oxygen and ozone. He thought, however, that the discovery was a fundamental one.

A NATION-WIDE SURVEY OF FIRST-YEAR COLLEGE PHYSICS

A NATION-WIDE survey of the courses in first-year college physics, which promises to be one of the most comprehensive and important cooperative ventures ever attempted by the colleges and universities of this country, has been announced by the Committee on Tests of the American Association of Physics Teachers. The proposed program has been formulated jointly by a committee of the association and by two committees of the American Council on Education. It calls for the testing of students in the first-year course twice during the college year 1933–1934. The test forms will be furnished to participating institutions at cost.

In an article which appears in the December issue of *The American Physics Teacher*, Dr. Karl T. Compton, president of The Massachusetts Institute of Technology and chairman of the American Institute of Physics, makes the following comments with regard to the proposed survey:

> The plan of uniform, nation-wide tests in the first-year college physics appears to avoid the dangers inherent in most educational standardizing schemes, while retaining their advantages. It is reasonable that this new venture is but the first of a series which will stimulate interest in and improve the quality of the teaching of college physics.
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> The plan seems to me to have distinct advantages, as follows:
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> It will give each teacher a means of evaluating his own efforts and product, with the resulting opportunity of guided improvement. Yet it does this gently, since it does not make public the results by name of school or individual.
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> Being unofficial and optional, it does not curtail the freedom of any school to set its own standards and give its own examinations in accordance with its own particular and local interests.
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> As a sporting proposition it is "heads I win, tails you lose"; for if your school makes a fine showing, you can proclaim the fact from the house-tops, but if your record is low you can bury your shame and make a more intelligent effort to do better next time.