Proceedings of the American Physical Society

MINUTES OF THE MEETING AT ST. LOUIS, NOVEMBER 30–DECEMBER 1, 1945

THE 268th meeting of the American Physical Society was held in Wayman Crow Hall of Washington University, St. Louis, on Friday, November thirtieth and Saturday, December first, 1945. With this meeting the Society emerged from the difficult years of World War II, with their impediments to travel and their grievous distraction of physicists from the normal life of free interchange of experiences and ideas. The war had indeed ended too lately to permit of the presentation of more than one paper of the category hitherto guarded in secret, but the atmosphere of the meeting and the representation of physicists were already very different from what prevailed at our severely restricted spring meeting. Be it recalled that along with the many limitations of our wartime meetings we are losing also their one attractive feature, the ample leisureliness resulting from the uncongested programmes of which it was often possible for everyone at the meeting to attend most of the papers and discuss them if he so wished. We shall miss this privilege henceforward.

Those who attended this meeting, and the officers of the Society in particular, owe much to Chancellor A. H. Compton who invited us to Washington University and helped in the planning of the x-ray symposium; to the Local Committee, in particular to A. L. Hughes and H. P. Lawther, for making all arrangements; to G. E. M. Jauncey for distributing to all who came a brochure on the "Birth and Early Infancy of X-Rays," of which his speech was a condensation, and to Mrs. A. H. Compton for entertaining the members, guests, and visiting ladies.

The dinner of the Society was held at the Gatesworth Hotel on Friday evening. After-dinner speeches were few and brief, because the Society at the request of some of its members had provided a hall in the Jefferson Hotel for an unofficial discussion of the problems created by the atomic bomb. This discussion was held under the chairmanship of H. H. Goldsmith.

The x-ray symposium mentioned above was held in celebration of the fiftieth anniversary of the discovery. It consisted of twelve papers: the speakers and the titles are given near the end of these Minutes, as also the title of the invited paper by G. A. Boutry of Paris. Following upon these the reader will find the abstracts of the thirty-seven contributed papers.

MEETINGS OF THE COUNCIL

The Council has met twice since the latest preceding issue of these Minutes: in special session at New York on November 10, and in regular session at St. Louis on November 30. At its meeting on November 10 the Council directed that the texts of two suggested amendments to the Constitution of the Society be circulated to the Fellows for inspection; this has been done. G. B. Pegram was renominated to the Governing Board of the American Institute of Physics. E. J. Konopinski, H. H. Nielsen, and E. C. Pollard were nominated to the Board of Editors of the Physical Review, and will be candidates for election for the term 1946–1948.

At the meeting of November 10, four candidates were elected to Fellowship and one hundred and eighty-six to Membership. At the meeting of November 30, seven candidates were elected to Fellowship and sixty-eight to Membership. Their names are appended, as also the names of a number of candidates elected to Membership on May 5, these names having been omitted through inadvertence from the Minutes lately published in *The Physical Review*.

The Society has lost through death the following Fellows and Members of the Society, the letter *F* distinguishing the Fellows: R. S. Bartlett (*F*, Gunnery School); W. H. Dehlinger (Bayside, New York); H. S. Denmark (Battelle); A. S. Fry (General Motors); R. H. Goddard; Wm. James Henderson (National Research Council, Canada); J. L. Hogg (*F*, retired, formerly Bell Telephone Laboratories); D. M. Kabakjian (University of Pennsylvania); I. P. Maizlish (Eastern Kentucky State Teachers College); H. C. Richards (*F*,

with cells containing, for accurate work, a Rayleigh horn. Conservative absorption due to light scattering can be studied in the direction of the primary beam.

* To be given after paper E9 if time permits.

T1. On the Deviation of the Biological Effects of Radiations from the Bunsen-Roscoe Law. I. OPATOWSKI, *University of Chicago.*—The effect of a radiation depends often not only on the total energy absorbed but also on its time distribution. To explain this it is assumed that the effect of radiations consists of successive transformations between a certain number of states 0, 1, $\cdots n$ and that these transformations follow a simple probabilistic model, which from a mathematical viewpoint is a generalization of the classical type of radioactive disintegrations. The transitions $(i-1\rightarrow i)$ and $(i+1\rightarrow i)$ are interpreted, respectively, as due to the action of radiation and to the biological reaction of the organism. The frequencies of these transitions are assumed, respectively, to be in a direct proportion to the radiation intensity I and to decrease as I increases. Then the probability that the organism be in the state n after a time t of radiation depends on It only, if t is sufficiently small but not if t is large. The result may be applied also to some types of photochemical processes. The paper is a part of an article to appear in the December, 1945 issue of the *Bulletin of Mathematical Biophysics.*