not lost any prestige in the scientific world. He remained the inventor of regeneration there." All through the discussion of the development of the electron tube and the associated circuits, the author makes it clear that he regards Major Armstrong as a brilliant experimentalist. For example (p. 303), "At twenty-three years of age Armstrong understood the audion better than anyone else in the world." The author does not seem to attach any importance to the pioneer work of O. W. Richardson in giving us the law of electron emission, of Professor Child in setting forth the space-charge relation, of van der Bijl, who gave the quantitative relation for amplification, of Wehnelt, Schottky and others, who had shown the importance of the emitting surface. None of these names occurs in the book.

The reviewer wonders if any one *invented* the regeneration circuit, or rather, if every one working with an electron tube, after van der Bijl and including him, did not invent it. Given the idea of amplification, the circuit is obvious. Many experimenters must have used the circuit, but they weren't in the patenting business. One wonders upon what towering pinnacle Major Armstrong would have been placed had the author been acquainted with or given attention to the recent loudly advertised frequency modulation.

In this chapter there is a minor criticism. The author accounts for the ending *tron* of many of our words, magnetron, radiotron, kenotron, etc., by saying that the Greek word *tron* means empty. There is no such word in the reviewer's lexicons. It is highly probable that the ending is due to that of *electron,* the Greek word for amber. It has a pleasant sound, so why not magnetron, etc.?

The last chapter deals with the attempts to cure human ills from the days when all was mystery and magic to the present time when there is a very small element of knowledge. There is held up for ridicule the use by the Rosicrucians of the occult powers of the magnet—or of something which they called a magnet—but praise is given to the use of fever produced by high-frequency radio waves in the cure of insanity and syphilis (!). It is stated that small-pox can be cured by red light and skin tuberculosis by blue. But the reviewer is of the impression that red light is used in small-pox cases as it is in developing a photographic plate. It would be better not to use any visible light. (Radiant energy is always present.)

In our enthusiasm for modern devices it might be well not to overstate our case.

Radio surgery or the use of the radio knife is praised. The radio knife, more accurately the radio needle or acusector, uses high-frequency oscillations for cutting out, by burning or searing, unwanted tissue. It is stated that Dr. George A. Wyeth, by inventing the endotherm, put electro surgery on the map. Now this instrument with the aristocratic name enables one to use *damped* electrical oscillations obtained by the old spark method or, by throwing a switch, *undamped* oscillations produced by an electron tube. It is claimed that damped oscillations must be used for one purpose, undamped for another. But why undamped can not do everything that can be done by electrical waves the surgeons can not tell us—nor can anyone else. It shows that the medical profession has not emerged from the days of a generation ago, when patients were made to believe that galvanic currents had to be used for one purpose, faradic for another. The patient was awed by the doctor's great knowledge. The magic of to-day, if not black, is at times rather dark and sometimes shady. That remark, however, does not apply to the endotherm which has been an important instrument in radio surgery.

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AGING

Das Problem des Alterns und die Chemie der Lebensvorgange. 2. Auflage. By D. REICHINSTEIN. 420 pp., 16 figs. Zurich: H. Akerets Erben Publishing House. 1940. $9.00.

THE first section of this work presents the conventional summary found in the usual non-critical review of aging. For the most part, the material is old and evidently taken from the familiar German reviews which have appeared in the past. It will prove of little interest to those familiar with the field and of little help to others since it has so few references that the location of the source material will be very difficult.

In the section devoted to the aging of cells, much attention is given to the pigments and the well-known theories of Mühlmann.

After such an introduction physical chemistry is dragged into the field of aging. Great labor is expended in attempting to make physical chemistry encompass the field of aging, but this elusive field constantly seems to escape. The final conclusion of the reader is that much too little is known experimentally about the processes of aging to apply physical chemical theory. The author's attempts are interesting but rather speculative.

Under the section devoted to the chemistry of life processes are discussed such diverse subjects as "Prontosil," choline, certain phases of endocrinology, with some consideration of cellular oxidation and enzyme action. As a whole, the thread of the story is difficult to follow and gives the impression of notes taken by the author on current science which has interested him.

The final section upon the theories of aging affords little that is new and much that could be forgotten.

In general this work neglects modern literature. It lacks the critical approach of such reviews as that of

Professor Carlson in Cowdry's "Problems of Aging." The field covered is very restricted in comparison with the work of Cowdry. The most useful contribution of Reichinstein's work is the presentation of his ideas concerning the possible explanation of aging processes on the basis of classical physical chemistry.

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SOCIETIES AND MEETINGS

THE NEW HAMPSHIRE ACADEMY OF SCIENCE

THE twenty-second annual meeting of the New Hampshire Academy of Science was held on May 31 and June 1, at Conway, N. H. At the Friday evening session, several papers were read by members, and a group of short films was shown as a sample of the science titles in the teaching and loan library of films maintained by the University of New Hampshire.

Saturday morning was entirely devoted to a symposium, "The Bedrock Geology of New Hampshire." The introductory paper on methods and history in this rapidly developing field was by Professor Marland P. Billings, of Harvard. There followed five reports of investigation in special regions: Mt. Cube, by Dr. Jarvis B. Hadley, of Tufts College; Mt. Cardigan, by Dr. Katharine Fowler-Billings; Winnipesaukee, by Dr. Alonzo Quinn, of Brown University; the Dover-Portsmouth area, by Dr. T. R. Meyers, of the University of New Hampshire; and the region of Lewiston, Maine, by Dr. Lloyd W. Fisher, of Bates College.

Saturday afternoon was given over to the reading of other papers by members, to the business meeting, and to the address of the retiring president, Dr. George White, of the University of New Hampshire, on "New Hampshire Mineral Resources."

At the business meeting it was voted to award the grant-in-aid for the current year from the American Association for the Advancement of Science to Professor T. R. Meyers, of the University of New Hampshire, for a continuation of his study on the stratigraphy, structure and petrology of southeastern New Hampshire.

It was voted to elect Professor Marland P. Billings, of Harvard, to honorary membership in the New Hampshire Academy of Science "for his extensive and critical studies of New Hampshire igneous, structural and historical geology, and for his example and guidance, which has given rise to a whole 'Billings school' of researchers in New Hampshire geology."

The publication committee reported ready for distribution the academy's Bulletin No. 1, an illustrated 40-page booklet called "Geology of the Presidential Range," by Richard P. Goldthwait.

The following officers were elected for 1940–41: *President,* Professor Bancroft H. Brown, Dartmouth College; *Vice-President,* Mr. Charles D. Howard, State Board of Health, Concord; *Secretary-Treasurer,* Professor W. W. Ballard, Dartmouth College; *Member of Executive Council,* Professor George White, University of New Hampshire, for five years.

The executive council voted to hold the next annual meeting at Durham, in the fall of 1941.

W. W. BALLARD,
Secretary

THE NEW YORK STATE GEOLOGICAL ASSOCIATION

THE sixteenth annual field meeting of the New York State Geological Association opened at Catskill, New York, on April 25, with a preliminary conference attended by about 100 geologists. The field trips on Friday and Saturday, April 26 and 27, were participated in by nearly 300 persons (over 70 cars and buses), including those who elected the special trips offered on Saturday and Sunday.

The annual dinner on Friday evening, with 225 at table, was followed by the business meeting and by talks and moving or color pictures on the local geology, with Dr. and Mrs. Nelson H. Darton as guests of honor. A letter of congratulations to Dr. Herman L. Fairchild on his approaching ninetieth birthday was voted and was signed by a large number of those present. Rochester was chosen as the meeting place for 1941, with Dr. Harold L. Alling for president and Professor J. Edward Hoffmeister secretary. Dr. Alling showed moving pictures in color of the 1939 meeting. Dr. Darton described his experiences in the early mapping of the region and his recollections of the famous men now dead who had worked here. Yates Wilson and John Cook discussed various phases of the geology east of the Hudson. Harry Eaton spoke on Amos Eaton, whose geological career began in Catskill. A set of colored photomicrographs of the local strata was then shown by Dr. Alling, followed by color pictures of Glacier National Park by Dr. Dyson.

A committee to prepare a plan to encourage teaching of geology in the secondary schools was also voted and will be appointed by the new president. Officers for the Catskill meeting were G. H. Chadwick and Robert Weeks Jones. By courtesy of the school authorities, the new Catskill High School building was used as headquarters.

The committee on nominations consisted of Dr. Robert Wesley Brown, Dr. Nelson C. Dale and Dr. Irving G. Reimann.

GEORGE H. CHADWICK