the same antagonistic action of ions as in the case of heart muscle. Similarly, blood plasma may be regarded as an emulsion of fibrinogen and other colloids in an aqueous medium, and the blood clot an emulsion of water in fibrin. The production of the latter system is favored by calcium salts, but is retarded by sodium salts.

Clowes has shown that there is a very close resemblance between the effects produced in emulsions of oil and water and those produced in biological systems, and he has made the valuable suggestion that the cell membrane is a system, a colloidal emulsion, of two phases; a watery solution of protein and a lipoid phase. In the resting state of the cell the membrane consists of an emulsion of protein solution in lipoid, the latter being the continuous phase. In this state, therefore, the membrane will be permeable only to the substances that are lipoid-soluble. In the active state of the cell, there is a reversal of the emulsion, and the aqueous phase becomes the continuous one. In this case, substances soluble in water will now be able to pass through. In each instance, however, regarding the emulsion-membrane as a sieve, the membrane will be permeable only to those substances the particles or molecules of which are small enough to pass through the "pores" between the droplets of the dispersed phase.

We can thus regard not only the protoplasmic cell contents but also the surface layer or cell membrane as a colloid system, and by adopting the view, probably not complete in itself, that the cell membrane is a complex emulsion of colloids, the two phases of which are capable of undergoing reversal, we can explain many of the phenomena associated with the action of the cell membrane.

Although we must recognize the essential importance of colloidal matter in connection with the phenomena of life, and matter in the colloidal state is the vehicle of life; although, further, we may interpret much of the behavior of living matter in terms of physics and chemistry, I am of the opinion that we can not explain life itself in terms of physical science. There seems to be no continuity between inanimate colloidal matter and living matter, but there is a distinct and sharp break in the curve of relations. In other words, life is a new factor, a new set of potentialities, introduced into inanimate matter. Life is a new creation.

ALEXANDER FINDLAY

UNIVERSITY OF ABERDEEN

WALTER SCOTT HENDRIXSON

ON July 1, Professor Walter Scott Hendrixson was found dead in his summer cottage at Portage Point, near Manistee, Michigan, where he had been temporarily alone. Death had occurred suddenly from hemorrhage in the brain.

Professor Hendrixson was born in Ohio in 1859; was graduated from Union Central College, Meron, Indiana, in 1881; was instructor and later professor of physics and chemistry at Antioch College, 1882–8; assistant and graduate student in chemistry at Harvard 1888–90, receiving the degrees of A.M. in 1889 and Ph.D. in 1903. He came to Grinnell College as professor of chemistry on the Dodge foundation in 1890, and at the time of his death was the senior member of the Grinnell College faculty, yet a most active and aggressive member and a valued adviser in affairs of the college.

During leaves of absence from Grinnell he had spent one year as graduate student at Goettingen and Berlin; one semester as lecturer in chemistry at the University of Illinois; a year as research fellow at Johns Hopkins University. He was a frequent contributor to the *Journal* of the American Chemical Society; was a member of learned societies; had served as president of the Iowa Academy of Sciences.

As a teacher, Professor Hendrixson was an inspiration to his students, sending many of them on to graduate and professional work in chemistry. As a chemist, the work of his earlier years was with water analyses and in the investigations of artesian waters underlying Iowa, by the United States Geological Survey. In his later years he has been a regular contributor in the development and applications of electrometric methods in chemistry, his last publication bearing date of May 5, 1925.

As a fitting and permanent memorial of a long and distinguished service, Professor H. W. Norris, a colleague of more than thirty years, has proposed the establishment of the Walter Scott Hendrixson Memorial Fund, for the promotion of research in pure science by members of the faculty of Grinnell College; a fund, the income of which is to be used for the promotion of research by paying the actual expenses involved in original investigations. The aptness of this suggestion was immediately recognized and measures promptly taken looking toward securing an endowment of not less than $10,000 for such a memorial.

FRANK F. ALMY

SCIENTIFIC EVENTS

RESEARCH AND INDUSTRY IN GREAT BRITAIN

THE British Science Guild have published a report, by the Research and Inventions Committee of the Guild, on the present position with regard to the supply of trained scientific research workers, and their utilization in industry.