excellent source of rotenone, provided the plant can be obtained in quantity.

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ON THE PROPERTIES OF THE ELECTRON

SOME of the main difficulties of the Bohr atom disappear, the writer has shown,[1] if the electron possesses the property that it absorbs radiant energy during its motion, which induces a decrease of its electrical field and under certain conditions ejects again the energy as radiation. A deduction of these properties was given based on thermodynamics and kinetic theory, which will be further elaborated in subsequent papers. The results may also be obtained in other ways, one of which will be pointed out here.

Suppose that an electron gas kept at constant temperature is subjected to a powerful magnetic field. The path of each electron will now possess greater curvature than before, resulting in an increased transformation of its kinetic energy into radiant energy, due to the acceleration it undergoes. A limiting case is that the concentration of the electrons is so small that in most cases they pass clear across the chamber. Thus the kinetic energy of the electrons will continually decrease. But this is manifestly an absurd result. Hence each electron will on the average recover its velocity during collision. This can take place only at the expense of the surrounding radiant energy, since the kinetic energy lost took this form. If radiation has the orthodox form, namely, that it consists of continuous electromagnetic waves, the electron can recoup the lost energy only by the gradual absorption of radiant energy which is stored up as internal energy. Since the emission of radiation due to the acceleration of the electron depends on the curvature of its path, the rate of absorption of radiant energy will similarly be dependent. The increase in velocity during a collision of the electron can be caused only by an increase in its field during the process, its internal energy supplying the necessary energy. Hence its field decreased during its mean free path. These are the results obtained before.

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MANAYUNKIA SPECIOSA (LEIDY) IN THE DULUTH HARBOR

IN the course of a biological investigation of the Duluth Harbor, specimens of *Manayunkia speciosa* (Leidy) were taken in the dredge samples. Dr. Leidy described this annelid in the *Proceedings* of the Academy of Natural Sciences of Philadelphia, 1883. There are some additions to be made and some differences in the description that will place this form in its proper place in an analytical table or key.

In general the worm answers to his description. The mature specimens measure about 2.9 mm, although individuals in the act of fission may reach 4.9 mm. These latter were the ones that Dr. Leidy made his description from, although he did not actually see them divide. The worm is somewhat transparent with some pigment around the branchial lobes, and the general shape is as he described it, except the seventh segment, which is no different from the rest except that it is about twice as long as the preceding segments. It is at this point that the worm divides, and, as Dr. Leidy rightly guessed, the expanded forepart of this segment is the beginning of a head for the new individual.

It has the characteristic tentacles and ciliated branchiae of the Sabellidae, but in the original description the collar was overlooked. This collar is open at the back with the ends flaring out but coming together when the worm is in a relaxed condition. There are no setae on the collar, but there are two pigment spots under it similar to the eyespots of the Oligochaeta. The ciliated branchiae are on branchial lobes which expand laterally. At the base of each branchia is a pigment spot. These can be seen only in the more mature individuals, the younger ones having fewer or none at all. I have counted up to ten on one lobe.

The pseudohemal system has a green fluid. This flows from two hearts at the base of the branchial lobes into the tentacles, then back down each side of the esophagus, uniting into a single vein which runs the length of the body ventral to the digestive tract. It flows through three pairs of loops, one pair in each of the last three segments, to a vein which forms a sheath around the digestive tract. Here it is pumped by a series of muscular contractions back to the head end of the body to begin circulation again. I failed to find the loops in any of the other segments as Dr. Leidy suggested they were.

The digestive tract is ciliated for the whole length. This seems necessary in view of the fact that the muscular contractions driving the pseudohemal fluid are from the posterior to the anterior end in opposition to the contents of the digestive tract.

The testes and ovaries are located as he described them. The female opening is between the fifth and sixth segment. In the one case where I was fortunate enough to observe the eggs being laid they measured .135 mm x .095 mm.

The setae and uncini are about as he described them except the pectinate uncini of the last three segments, which have from three to five rows, composed of six or seven teeth each.

[1] *Phil. Mag.*, 7: 493, 1929.

The specimens are on file at the American Museum of Natural History in New York City. Perhaps they have been carried to the Duluth Harbor on some of the occasional ocean-bound vessels that visit this port. At least, it is surprising to find them so far from salt water.

O. LLOYD MEEHEAN

SOME ADDITIONAL STORIES ABOUT SCIENTIFIC NAMES

DR. L. O. HOWARD'S recent note on this subject calls to mind a story regarding a bacteriological scientific name that I have intended to record before this.

In the publication of De Bary's original description of the common spore-forming organism, *Bacillus megatherium,* a typographical error occurs which has frequently caused trouble. The incorrect spelling is *Bacillus megaterium.*

Last summer in chatting with Professor S. Winogradsky in his laboratory maintained by the Pasteur Institute in the little town of Brie-Comte Robert near Paris, I learned that he was a student in De Bary's laboratory at the time he discovered this organism. He tells me that because of its large size it received the nickname in the laboratory of the "big animal." In American slang, this would have been "big bug." The correct spelling then is, as I have already indicated, *Bacillus megatherium,* and its derivation is evident. Some attempts have been made to retain the misspelled form of the word, and various students have tried to give a logical derivation for it.

Another typographical error that occurs in the naming of one of our common spore formers is found in Migula's original description of *Bacillus albolactis* in his "System der Bakterien." The form just given is the correct Latin form and occurs in the index, although the spelling in the text is given as *B. albolactus.* The incorrect spelling is frequently used in the literature.

ROBERT S. BREED

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REPORTS

THE NATIONAL RESEARCH COUNCIL'S GRANTS-IN-AID

AT a recent meeting of the National Research Council's Committee on Grants-in-Aid, which is composed of the chairmen of the council's seven divisions of science and technology and the chairman, treasurer and permanent secretary of the council, and which has charge of the disposition of certain funds made available to the National Research Council by the Rockefeller Foundation for the making of special grants, various matters of policy were considered and several grants were made.

The following items of general policy were adopted:

Grants will be made primarily for the support of investigations in the fields represented by the divisions of the Research Council, in order to cover the following expenses: apparatus, material, assistance and necessary travel to and from the field of operation.

In general, grants will not be given for personal salary, for expenses of publication, for the purchase of books or for travel to attend scientific meetings.

Preference will ordinarily be given to the support of investigations: (*a*) which can be completed with the aid of the grant; (*b*) toward which the university or other institution to which the applicant is attached also contributes financially or through special support; (*c*) for which a grant of not more than $1,000 is requested.

A report of progress, with items of expenditure, should be made by the grantee to the secretary of the committee at least twice a year, as of December 31 and June 30.

The title to property purchased from grants will remain with the National Research Council until ultimate disposition of the property is made by the council.

Eighteen grants were made, as follows:

Richard T. Holbrook, professor of French, University of California, for X-ray studies on speech articulation in French, Italian and other languages; Charles W. Jarvis, associate professor of physics, Ohio Wesleyan University, for studies of critical potentials of mercury vapor; Gordon L. Locher, assistant professor of physics, Miami University, for studies of the composite photoelectric action of X-rays; Paul R. Rider, associate professor of mathematics, Washington University, for a study of the mathematical theory of the reliability of random samples; George B. Welch, Marshall College, for investigations on photoelectric thresholds; Ernest V. Lawrence, associate professor of physics, University of California, for a study of the photoelectric properties of metal surfaces and thin films of alkali metals; Raymond T. Birge, professor of physics, University of California, for the purchase of an electric computing machine for use in studies on the probable values of the general physical constants, and Mark H. Liddell, professor of English, Purdue University, for studies upon the physical characteristics of speech sounds.

James B. Macelwane, S.J., professor of geophysics, St. Louis University, for seismological investigations, involving the establishment of seismological stations at Little Rock, Arkansas, and in Kentucky or Tennessee, and Willard Berry, the Johns Hopkins University, for investigations on the Tertiary fauna, especially the Foraminifera, of Peru.