Two research fellowships in organic chemistry carrying a salary of $2,000 each a year have been organized for the coming year in the Sterling Chemistry Laboratory of Yale University. They will be known as the Milton Campbell research fellowships in organic chemistry and will be open only to men who have received their Ph.D. degree. Application for these fellowships with complete credentials should be directed to Professor Treat B. Johnson. A graduate fellowship in organic chemistry has been tendered to the Sterling Chemistry Laboratory by the Eli Lilly Laboratories for the year 1928–29. It has been awarded to Mr. Robert M. Herbst.

A census of the scientific workers of the Soviet Union has been taken by the Russian Academy of Sciences. There are altogether about 26,000 scientific workers active in the U. S. S. R., of which 12,000 are living in Leningrad and Moscow. A reference book on the scientific institutions of the U. S. S. R. is being issued by the academy.

Dr. J. McKeen Cattell, editor of Science, sails for Europe on May 26, returning on August 5. During this interval editorial communications should be addressed to Dr. McKeen Cattell, whose address is Garrison, N. Y.

## UNIVERSITY AND EDUCATIONAL NOTES

Colton Laboratory, built and equipped to care for the departments of physics, chemistry and biology at Hiram College, was dedicated May 12. The building consists of three stories over a full basement and is constructed of concrete, brick and stone. It is named in honor of Professor George H. Colton, who was a teacher of the sciences at Hiram College from 1873 to 1926. Addresses were made by Dr. H. C. Cowles, Dr. Harry N. Holmes and Dr. H. B. Lemon, representing, respectively, botany, chemistry and physics.

The departments of mathematics and physics of Princeton University have announced the following special program of graduate courses and lectures during the coming academic year in the field of recent developments in mathematical physics: Professor H. Weyl will lecture on "Group Theory and Quantum Mechanics." He will be assisted by Dr. H. P. Robertson, visiting assistant professor from the California Institute of Technology. Professors Eisenhart and Robertson will offer a course in "The Mathematics of the Newer Quantum Theory." Professor E. U. Condon will give a course in "Wave Mechanics," with special emphasis on the physical concepts and applications.

Dr. James I. Scarborough has been appointed head of the department of surgery at the University of Arkansas, to assume his new duties on September 15.

Dr. Lee Wallace Dean, formerly of the University of Iowa, has been appointed full-time professor of oto-laryngology in the Washington University School of Medicine. Dr. Dean will assume his duties immediately.

The recent promotion of Dr. Selig Hecht to a full professorship of biophysics in Columbia University was incorrectly reported in Science as being in the department of biochemistry.

Dr. J. C. Geiger, for five years connected with the faculty of the University of Chicago, has arrived at the University of California to accept an appointment as associate professor of epidemiology in the medical school and Hooper Foundation for Medical Research.

Dr. M. T. Townsend, of St. John's College, Md., has been appointed associate professor of histology and embryology in the medical school at the University of Oklahoma.

Miss Hope Hibbard, fellow in the International Education Board, at present in Paris, has been appointed assistant professor of zoology at Oberlin College.

Dr. W. W. Jameson has been appointed to the chair of public health at the University of London, tenable at the London School of Hygiene and Tropical Medicine.

Dr. Hermann Sierp, professor of botany in the University of Munich, has been appointed to the chair of botany in the University of Köln.

## DISCUSSION AND CORRESPONDENCE

### THE LITTLE CIRCLE OF REFERENCE

One usually defines a simple harmonic motion as the motion of the projection of a uniformly circulating point on a fixed diameter. It may sometimes with advantage be defined as the motion of the projection of a fixed circumferential point on a uniformly circulating diameter, relatively to that diameter. In figure 1
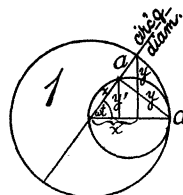


the two $y$'s and the two $x$'s are obviously the same, the angular displacement of the diameter at $t$ seconds being $\omega t$. The foot point from $a$ lies on what may be called the little circle of reference; and since $x =$

$\cos \omega t$ and $y' = x \sin \omega t = (a/2) \sin 2\omega t$, the new circulating point runs with twice the original angular speed, and half the amplitude. Now suppose the amplitudes $a$ and $b$ in figure 2 are at right angles, and
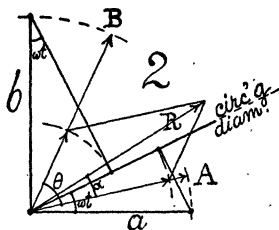


have a common circulating diameter. Their foot points from the ends of $a$ and $b$ will lie on little circles of reference with diameters $a$ and $b$ and at distances $a \cos \omega t$ and $b \sin \omega t$ from the center of the common circulating diameter.

Finally let A and B be any two given vectors of length $a$ and $b$. Lay off the segments just obtained along the directions A and B, and let R be their sum. Then $R = A \cos \omega t + B \sin \omega t$ the familiar ellipse, selecting A and B as conjugate radii. The relation of the angles $\omega t$ and $\alpha$ which begin together, and the constant $\vartheta$ (see figure) though easily found, is naturally complicated; but it is usually of no interest.

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## OCCURRENCE OF A MUTANT MEADOW-MOUSE

WHILE trapping for rodents along the roadside on the outskirts of Ann Arbor, Michigan, an adult female meadow-mouse, *Microtus pennsylvanicus pennsylvanicus*, with marked color differentiation, was captured alive on October 30, 1927. The roadside here slopes gradually to a natural depression, the sides of which are covered with uncut red clover and where Microtus runways are common. The mouse was captured not more than twenty feet from the concrete road. Compared with Ridgway's color chart, the color of the pelage is as follows: back and sides, drab-gray at the tips of the hairs and white at the bases; belly, pale smoke-gray; nose and extending up between and slightly above the eyes, drab; dorsal streak on tail, hair, brown. The eye-color was red. Unfortunately the mouse died on December 16, 1927, curtailing any chance of breeding. It is now preserved as a specimen in the mammalian collection of the University of Michigan.

The authors are indebted to Dr. H. W. Feldman for the following notes concerning the possible genetic constitution of this mutant:

The color-pattern is unmistakably agouti and compared with other mutant forms of murine rodents, the specimen bears a close similarity to the albino allelomorphs. It seems to indicate a condition midway between the ruby-eyed variety of the Norway rat, *Rattus norvegicus* (as described by Whiting and King[1]), and the extreme dilution of the house-mouse, *Mus musculus* (as found by Detlefsen[2]). If the differences in the normal intensity of the pelage coloration of the meadow-mouse are considered, this mutant represents a deviation as great for the former species as extreme dilution does for the latter. Since albino meadow-mice have been noted by Dunn,[3] the albino series in this form probably consists of at least three allelomorphs.

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## NOTES ON THE OCCURRENCE OF SARCOCYSTIS

RECENTLY in the preparation of histological sections of muscle, we encountered two cases of parasitic infestation, which seem worth recording. The parasites appear to belong to the order Sarcosporidia, genus Sarcocystis. Wenyon[1] in his "Protozoology" discusses this order with other groups under the heading, "Parasites of Undetermined Position." The members of the genus Sarcocystis, as the name indicates, share the common characteristic of forming, in one stage of the life cycle, cysts within the fibers of skeletal and cardiac muscle. Within the typical cysts are found the characteristic "banana-shaped" spores. Considerable variation has been reported in the sizes of both the cysts and the spores.

In one of our cases cysts of this parasite occur in the heart-muscle of the ox. The preparations were made especially for the study of the Purkinje fibers, and the parasites are found within these as well as within the ordinary cardiac muscle-fibers. Large normal cardiac fibers measure 36 micra in diameter. The smallest cyst which we have observed in such fibers measures 36 micra. Another in oblique section measures 89 by 440 micra and the largest 105 micra in cross-section, in which latter case no definite remains of the muscle-fiber can be made out. Strands of the syncytium of Purkinje fibers measure from 36 to 240

[1] Whiting, P. W., and King, Helen Dean, 1918, "Ruby-eyed Dilution, a Third Allelomorph in the Albino Series of the Rat." *Jour. Exp. Zool.* 26: 55–64.

[2] Detlefsen, J. A., 1921. "A New Mutation in the House-mouse." *Amer. Nat.* 55: 469–473.

[3] Dunn, L. C., 1921. "Unit Character Variation in Rodents." *Jour. Mamm.*, vol. 2: no. 3: 125–140.

[1] Wenyon, C. M., 1926, "Protozoology," Vol. I, pp. 760–769.