of acceptance. An abstract not exceeding 225 words must accompany each manuscript. These abstracts will be published immediately in the Wistar Institute Advance Abstract Sheets and appear later on the Wistar Institute Bibliographic Service Cards. Manuscripts should conform to the Wistar Institute publication standard. They should be sent to the managing editor or any associate editor. One hundred reprints of each article are furnished to the author or authors free; additional copies may be obtained according to rates which will be quoted as soon as the manuscript has been examined.

This journal will be issued on the twentieth days of February, April, June, August, October and December. A volume will contain approximately 500 pages and may be closed with any issue. The journal will be sold by the volume, not by the year.

THE NON-RESIDENT LECTURER IN CHEMISTRY AT CORNELL UNIVERSITY

THE non-resident lecturer in chemistry at Cornell University for the second term of the present academic year, February 15–June 1, will be Professor Alfred E. Stock, director of the Chemical Institute of the Technische Hochschule of Karlsruhe, Germany.

Professor Stock was born in Danzig in 1876, and received the degree of doctor of philosophy, *Magna cum Laude* from the University of Berlin in 1899. In 1898 he held the position of lecture assistant under Professor Emil Fischer at the University of Berlin, and from 1899 to 1900 he carried on investigations in the laboratory of Henri Moissan in Paris. Returning to Berlin he qualified for the position of privat-docent in 1904 and was promoted to a professorship in 1906. In 1909 he went to Breslau as professor of inorganic chemistry in the newly founded Technische Hochschule there, and was appointed director of the Institute of Inorganic Chemistry. In 1925 he was called to the University of Münster, but before entering upon the duties of that position he accepted appointment in the Kaiser Wilhelm Institute for Chemistry in Berlin-Dahlem, and became director of this institute and professor in the philosophical faculty of the University of Berlin in 1921. He resigned this position in 1926 to accept appointment as director of the Chemical Institute of the Technische Hochschule of Karlsruhe.

Professor Stock, according to our correspondent, "is one of the most versatile and gifted investigators in the field of inorganic chemistry, and his many investigations, numbering over 160, are characterized by brilliant experimental technique and convincing thoroughness." While at Cornell he will lecture upon the high-vacuum method for studying volatile substances, the chemistry of boron, the preparation and properties of beryllium, and chronic mercurial poisoning, discussing in detail the detection and determination of traces of mercury. His introductory public lecture, to be delivered on February 17 will be on "The Present State of the Natural Sciences." His regular lectures will begin on Thursday, February 18.

SCIENTIFIC NOTES AND NEWS

THE gold medal of the Royal Astronomical Society has been awarded to Dr. Robert Grant Aitken, director of the Lick Observatory, for his work on double stars.

AT a testimonial dinner given recently by the Medical Society of the City and County of Denver, a portrait of Dr. Henry Sewall, emeritus professor of medicine at the University of Colorado School of Medicine, was unveiled and formally presented to the society by Dr. Harry J. Corper. Dr. Frank W. Kenney, secretary of the board of trustees of the society, made the speech of acceptance. Dr. James R. Arneill was toastmaster.

DR. CHARLES V. CHAPIN, superintendent of health of Providence since 1884, retired from active service on January 4. The Providence Medical Association has adopted a resolution in which tribute is paid to Dr. Chapin's long and distinguished service.

THE annual meeting of the New York Academy of Medicine on January 7 was preceded by a testimonial dinner given in honor of Dr. Linsly R. Williams, director of the academy. Among those elected to fellowships in the academy were Drs. Karl Landsteiner, Phoebus A. Levene and Peter K. Olitsky, of the Rockefeller Institute, and to associate fellowships, Dr. Stanley R. Benedict, of the Cornell Medical School, and Drs. John H. Northrop, W. J. V. Osterhout and Donald D. Van Slyke, of the Rockefeller Institute.

DR. LIGHTNER WITMER, professor of psychology at the University of Pennsylvania and director of the Psychological Clinic, was the recipient of a volume entitled "Clinical Psychology—Studies in Honor of Lightner Witmer—Commemorating the Thirty-Fifth Anniversary of the Founding of First Psychological Clinic," at a special meeting on December 11 of the faculty of the college. Dr. Paul H. Musser, dean of the faculty, called upon Dr. Robert A. Brotemarkle, editor of the volume, who read the dedication page. Dr. Edwin B. Twitmyer, professor of psychology, assistant director of the clinic and chairman of the department, extended congratulations to Dr. Witmer. Dr. Josiah H. Penniman, provost in charge of re-

search, made the commemorative address on "The Man and His Work." President Thomas S. Gates then presented the volume to Dr. Witmer.

A TESTIMONIAL dinner in honor of the seventieth birthday of Dr. Max Einhorn, known for his work in gastro-enterology, was given by the staffs of the Lenox Hill Hospital, the Post-Graduate Hospital and the members of the German Medical Society and the International Medical Club of America, at the Hotel Astor, New York City, on January 9.

DR. ELLEN CHURCHILL SEMPLE, professor of anthropogeography at Clark University from 1921 to 1928, who was awarded the Cullom gold medal of the American Geographical Society in 1913 for her work on the effect of geographical conditions upon the development of society, has presented the medal with her library to the University of Kentucky.

DR. LOUIS B. WILSON, director of the Mayo Foundation for Medical Education and Research, University of Minnesota, Rochester, was recently elected president of the Association of American Medical Colleges. At New Orleans Dr. Wilson was elected president for two years of the Society of the Sigma Xi.

AT the annual meeting of the American Anthropological Association at Andover, Massachusetts, on December 29, the following officers were elected for the year 1932: *President,* John R. Swanton; *First Vice-president,* Warren K. Moorehead; *Second Vice-president,* Wilson D. Wallis; *Secretary,* John M. Cooper; *Treasurer,* Edward W. Gifford; *Editor,* Robert H. Lowie; *Associate Editors,* Edward W. Gifford, Frank G. Speck and Frank H. H. Roberts, Jr.; *Executive Committee,* A. Irving Hallowell, H. Newell Wardle and M. W. Stirling.

DR. J. G. FITZGERALD has been appointed dean of the faculty of medicine of the University of Toronto, to succeed Dr. Alexander Primrose. Dr. E. Stanley Ryerson, professor of surgery, has become assistant dean.

DR. JAMES D. BRUCE, director of the department of post-graduate medicine at the University of Michigan, has been appointed vice-president of the university in charge of university relations.

PROFESSOR OTTO V. ADAMS, member of the civil engineering faculty, has been appointed acting dean of the engineering school of Texas Technological College. He succeeds Dean Wm. J. Miller, who has accepted a position as head of the department of electrical engineering in the University of North Carolina. Professor C. V. Bullen, of the University of Oklahoma, has been appointed head of the electrical engineering department of Texas Technological College, a position also held by Dean Miller.

THE Lukens Steel Company of Coatesville, Pennsylvania, has established at the Mellon Institute, Pittsburgh, Pennsylvania, an industrial fellowship whose purpose is the scientific investigation of processes employed in the manufacture of steel plates. Dr. Erle G. Hill, who received his professional education at the University of California, has been appointed to this fellowship. He is a specialist in iron and steel technology and was previously associate professor of metallurgy in the School of Mines of the University of Pittsburgh.

DR. A. J. KLUYVER, professor of microbiology at the Technical University of Delft, Holland, will be visiting professor at the Iowa State College from May 1 until the latter part of July, lecturing on physiology and biochemistry of bacteria.

DR. RICHARD HARDIE, professor of botany at the University at Stuttgart, has been called to Göttingen.

DR. CHARLES SINGER has become professor of the history of medicine in the University College, London, and Mr. E. F. D. Witchell, professor of mechanical engineering in the Imperial College, City and Guilds College.

SIR RICHARD GREGORY, editor of *Nature,* gave a popular lecture on January 6 on "Comets and Shooting Stars" before the twentieth annual conference of British Educational Associations held at University College, London.

DR. ERNST WALDSCHMIDT-LEITZ, of the University of Prague, will give in April the Dohme Lectures at the Johns Hopkins University.

DR. WILLEM DE SITTER, director of the Astronomical Observatory of the University of Leiden, Holland, who was invited by the University of California last September to visit the United States, has been making a lecture tour of the country which will culminate with two series of lectures to be delivered at the university, beginning on January 18. Professor de Sitter will be the first lecturer on the Charles M. and Maria Hitchcock Foundation for the year 1932. His first series, consisting of three addresses, will deal with "The Astronomical Aspects of the Theory of Relativity." His second series of three lectures, during the week of January 25, will deal with "The System of Astronomical Constants."

THE meeting of the Washington Academy of Sciences on January 12 was a joint meeting with the Geological Society of Washington. Dr. F. A. Vening Meinesz, professor of geodesy at the University of Utrecht and a member of the Netherlands Geodetic Commission, delivered an illustrated address on "Gravity Results of Submarine Expeditions in the East and West Indies and their Relation to Tectonic Phenomena."

DR. WILLIAM H. WELCH, professor of the history of medicine at the Johns Hopkins University, gave a Mayo Foundation lecture at Rochester, Minnesota, on January 1 on "English Surgical Reformers of the Sixteenth Century."

DR. LEWELLYS F. BARKER, professor emeritus of medicine at the Johns Hopkins University School of Medicine, is giving the annual Scripps Metabolic Clinic lectures for the members of the San Diego County Medical Society on January 9, the subject being "Obesity." Dr. Barker gave a series of bedside clinics from January 7 to 9. The Scripps Clinic Lectureship Endowment makes it possible to bring a lecturer to southern California each year.

DR. S. J. CROWE, of Baltimore, will deliver the fourth Harvey Society Lecture at the New York Academy of Medicine on Thursday, January 21. His subject will be "Investigations on the Underlying Causes of Deafness."

PROFESSOR EMIL TRUOG, of the University of Wisconsin, will give a series of six daily lectures on soils, plant nutrition and fertilizers at the Massachusetts State College during the week of February 14 to 20.

DR. H. D. ARNOLD, director of research at the Bell Telephone Laboratories, New York City, delivered on the evening of January 6 at the Lowell Institute the first of seven lectures on "The Application of Science in Electrical Communication" to be given by representatives of the Bell Telephone Company. The lectures, covering various branches of electric communication, take place on successive Tuesday and Friday evenings.

THE Stanford University School of Medicine has announced a special course of popular medical lectures to celebrate the fiftieth anniversary of the lectures founded in 1881 by Dr. Levi Cooper Lane. They are given in Lane Hall on alternate Friday evenings at eight o'clock. The lectures are: January 8, "Dr. Levi Cooper Lane and the Popular Medical Lectures," Dr. Emmet Rixford, San Francisco; January 22, "Half-century of Progress in the Recognition and Treatment of Disease," Dr. George Dock, Pasadena; February 5, "Achievements in Surgery of the Past Fifty Years," Dr. Andrew Stewart Lobingier, Los Angeles; February 19, "Contribution of Experimental Biology and Medicine to the Alleviation of Human Suffering," Dr. Herbert McLean Evans, Berkeley; March 4, "Social Aspects of Child Welfare," Dr. Henry Dwight Chapin, New York City; March 18, "Fifty Years of Progress in the Prevention of Disease," Dr. Jacob Casson Geiger, San Francisco.

THE Western Society of Naturalists held its fourth winter meeting at the University of California on December 21 and 22, with some fifty members and guests in attendance and twenty-four papers on the program.

THE annual meeting of the American Heart Association will be held on Monday, February 1, at 4:30 P. M., at the offices of the association, in the Nelson Tower, 450 Seventh Avenue, New York City.

THE International Congress of Mathematicians will meet at Zurich, Switzerland, from September 4 to 12. There will be a formal reception on the evening of September 4, and the inaugural meeting will take place on the morning of September 5. Morning sessions will be devoted to general addresses and afternoons to meetings of the sections. In the evenings there will be receptions and a concert. The congress will be followed by an excursion to the Jungfraujoch. Those from the United States and Canada expecting to attend are requested to write to Professor F. Gonseth, Ecole Polytechnique Fédérale, Zurich, Switzerland.

THE thirty-fourth annual meeting of the Maryland State Horticultural Society was held at the new horticultural building of the University of Maryland, College Park, on January 4 and at the Lord Baltimore Hotel on the following day in connection with the convention of the Maryland Farm Bureau Federation. In addition to speakers who discussed problems of fruit growing, a feature of the program was the inspection and dedication of the new horticultural building at College Park. State Senator Earle W. Withgott, Easton, vice-president of the Horticultural Society, presided at the dedication and Mr. Samuel M. Shoemaker, chairman of the university board of regents, made the principal address. The horticultural building measures 186 by 98 feet and is of concrete and stone construction. The main section is of three stories, flanked by two wings of two stories. The building contains laboratories for all types of horticultural plant research, canning, fruit packing, spray machinery and spray practice. Space has been provided for later installation of controlled cold rooms, where effects of low temperature upon fruits and all types of plants can be studied. Classrooms, offices, a horticultural library, an assembly room and the laboratories of floriculture, nursery and ornamental horticulture occupy the upper floors of the building.

A NEW teaching museum has been opened at Rutgers University by the department of zoology of the New Jersey College for Women, a unit of the university. It occupies the Yardley Memorial Room in the zoology building, named in honor of Mrs. Margaret Tufts Yardley, first president of the New Jersey State Federation of Women's Clubs, under whose direction

the money for the building was raised and given to the college. The museum is open to the public and contains about half the teaching exhibits of the department of zoology, including 225 mounted birds (New Jersey), 90 bird skins (native and exotic), skeletons of vertebrates, preserved materials, anatomical models and common invertebrates and smaller vertebrates of the state.

DISCUSSION

A POSSIBLE MEANS OF CUTTING DOWN THE MOSQUITO POPULATION

LAST July, while operating a large electric resistance heater enclosed in the fire-brick structure used for spraying quartz to form a mirror blank, Mr. A. L. Ellis called my attention to the circumstance of myriads of what seemed to be mosquitoes dead and resting on the broad domed top surface and in crevices in the top of the furnace. This demanded an explanation, and the following is taken from a memorandum that was made:

Mr. Ellis has called my attention to the fact that during the operation of the furnace in spraying the 60-inch quartz disk recently, great numbers of what appeared to be mosquitoes have fallen on the top of the dome which covers the furnace in which the spraying is going on. The total number of these insects which have met their deaths above this furnace seems to be many thousands; undoubtedly a great lot of them have been blown away. On collecting some of the corpses which are abundant on top of the furnace, especially in the cracks, I have tried to determine the sex of these insects, whether they are females or males. This raises another question. If the insects found are males, why do they appear at the furnace in such large numbers? There is a possible answer which may or may not be true. The electric devices near the furnace produce a fairly strong three-phase 60 cycle hum, pervading all the space around it. Can it be possible that this hum represents the hum of the female mosquito and serves an an attraction for the males which gather where the noise is prevalent? If this were the case, then we should be able to account for the vast numbers of these creatures which have come to their deaths in approaching the furnace, and furthermore, and more important, there may be pointed out some way of getting rid, to a large extent, of the mosquito population. Certainly, if the male can be drawn to a spot and cooked, then the egg-laying power of the female would be curtailed, and we shall have a great diminution in the mosquito population, provided the above reasoning is in accordance with fact and provided devices are developed to produce a three-phase 60 cycle hum where mosquitoes are bred and spread about, with means for destroying the mosquitoes which are so attracted. They may be burned, or drowned, or shocked, or cooked.

ELIHU THOMSON

(July 14, 1931.)

The mosquito season passed, and there are now no such insects for further experiments. Let me add that where the event in which the foregoing was based took place was at the River Works (Saugus River) of the General Electric Company at Lynn, Massachusetts. Southwest of the works is an extended area of marsh land, much of it covered with pools, either due to rains, or to overflow at high tides from the sea.

Recently, in telling of the above suppositions of mine to Professor George H. Parker, of Harvard University (Department of Zoology), he kindly confirmed my guesses by saying that only the female mosquito sings or produces its characteristic note when flying, and that the males are provided with bushy antennae projecting from the head on each side, and that these are the organs of hearing, whereby the male recognizes the presence of the female somewhere near.

Now, the three-phase 60 cycle hum of the heaters in the furnace—a sort of third harmonic to the 60 cycle rate—is to my ear an exact representation of the noise one hears as a female mosquito visits one in the night, and one endeavors to crush the annoying creature by a slap of the hand on the side of the face where the pest appears to be ready to draw blood from the victim of its attentions. The fact that the note from the furnace is individual (a single note) and that its reach must be great on account of the size of the furnace itself, the object from which it emanates, would account for the multitude of males which flew towards it from the marsh land during the period of operation of the furnace.

The insects evidently hovered for some time over the warm roof of the furnace itself, and were thus gradually desiccated and fell thereon.

Can the whole race of them be thus decimated or extinguished by proper utilization of these principles?

It is notable that, in spite of the great swarm of insects, there were no reports of bites from the men employed in the furnace house. The males do not bite. The females do so, in attempting to secure nutrition for the nourishment and development of the eggs which they proceed to lay in the stagnant pools. It is easy to organize an electro-magnetic "hummer" which, at small expense of energy, can spread over a large space the peculiar hum, and attract the males; perhaps also repelling the females. Various ways of trapping the males may be suggested, as they need not be desiccated or cooked to get rid of them.

It should be added that I was informed by Dr. Parker that some efforts at attraction of male mos-