man of the board. Other members are Colonel Frederick Stuart Greene, state superintendent of public works; Lithgow Osborne, state conservation commissioner; Henry F. Lutz, director of state parks and secretary of the State Council of Parks; Mrs. George M. Tyler, president of the State Federation of Home Bureaus; George McAneny, president of the New York City Regional Planning Association, and Miss Theodosia Burr, a member of the Dutchess County Planning Commission.

In a statement made public by Governor Lehman he says that it will be the function of the State Planning Boards to correlate the findings of the several departments, to gather such supplementary information as may prove useful and from the whole to formulate a broad plan of development for each state. This will include a determination of the usefulness of the principal regions within a state for agricultural, recreational, forest, watersheds, industrial, urban or other purposes and a study of the transportation facilities existing or required to survey these areas. It is planned that in New York State a preliminary survey and study include the various proposed public works projects and other related projects, both public and private, with a view to the possible development of a long-range program of public works.

SCIENTIFIC NOTES AND NEWS

THE formal presentation of the William H. Nichols Medal of the New York Section of the American Chemical Society was made to Dr. Henry C. Sherman, Mitchill professor of chemistry at Columbia University, on March 9 at the Chemists' Club, New York City, by Professor Victor K. LaMer, of Columbia University, chairman of the jury of award. The award was made to Dr. Sherman in recognition of his work on vitamins. Dr. John M. Weiss, chairman of the section, presided. The speakers were Dr. Lafayette B. Mendel, Sterling professor of physiological chemistry at Yale University, and Dr. C. A. Browne, of the Bureau of Chemistry and Soils, U. S. Department of Agriculture. Dr. Sherman spoke on the benefits of concentrating vitamins in foods.

A DINNER in honor of the seventy-fifth birthday of Dr. F. H. Herrick, professor emeritus of biology, was held recently at the Cleveland Club by the department of biology of Western Reserve University, of which Dr. Herrick was a member for forty-five years.

DR. IRVING LANGMUIR, associate director of the Research Laboratory of the General Electric Company, has been appointed for the academic year honorary chancellor of Union College, Schenectady, New York. Dr. Langmuir will deliver the principal address at the one hundred and thirty-eighth annual commencement exercises of the college on June 11.

DR. FRANK B. JEWETT, vice-president of the American Telephone and Telegraph Company and president of the Bell Telephone Laboratories, has been elected to life membership on the corporation of the Massachusetts Institute of Technology. Dr. Jewett had previously served a term as member of the corporation.

AT the recent annual meeting of the National Institute of Social Sciences, Dr. C. Stuart Gager was reelected president for the third year. Dr. Gager has also been elected an honorary life member of the Pennsylvania Horticultural Society.

DR. THOMAS T. READ, Vinton professor of mining engineering at Columbia University, has been elected chairman of the Mineral Industry Education Division of the American Institute of Mining and Metallurgical Engineers.

THE title of "Honorary Fellow of University College, London" has been conferred on Dr. Karl Pearson, emeritus professor of applied mathematics and mechanics from 1884 to 1911 and Galton professor of eugenics from 1911 to 1913, and on Emeritus Professor Sir William Matthew Flinders Petrie, Edwards professor of Egyptology from 1893 to 1933.

THE Gold Medal of the Institute of Engineers of South Wales has been awarded to Professor A. E. Trueman, of the department of geology, University of Bristol, for his paper, "A Suggested Correlation of the Coal Measures of England and Wales," for being the most valuable paper received and published during 1933.

DR. ALLEN WEIR FREEMAN, professor of public health administration at the Johns Hopkins School of Hygiene and Public Health since 1923, will succeed Dr. Wade Hampton Frost as dean when Dr. Frost's term expires next July. Dr. Frost will continue his work as professor of epidemiology.

DR. FREDERICK CARPENTER IRVING was recently appointed William Lambert Richardson professor of obstetrics at Harvard University. Dr. Irving is the first incumbent of this chair, which was created last autumn under the will of the late William Lambert Richardson, formerly professor of obstetrics and dean of the Harvard Medical School.

JAMES ROBERT MATHEWS, professor of botany in the University of Reading, has been appointed Regius professor of botany at the University of Aberdeen, in place of the late Professor W. G. Craib.

DANIEL KASHKAROV, professor of vertebrate zoology at the Middle Asiatic State University, has joined

the staff of the University at Leningrad as head of the department of the ecology and biology of vertebrates.

JAY N. DARLING, of Des Moines, Iowa, has been appointed chief of the U. S. Bureau of Biological Survey to succeed Paul G. Redington, who has joined the Forest Service. Since January 6 Mr. Darling has served as a member of the President's committee on wild-life restoration. He is a member of the Migratory Bird Conservation Commission of the U. S. Department of Agriculture, of the Iowa Fish and Game Commission, of the Iowa Planning Commission and of the Des Moines Park Board. Mr. Darling is cartoonist for the *New York Herald-Tribune*.

THE Board of Trustees of the Tennessee Academy of Science has elected Dr. A. Richard Bliss, Jr., director of The Reelfoot Lake Biological Station.

DR. EDGAR ALLEN, professor of anatomy at the School of Medicine of Yale University, will be in charge of the course in surgical methods in experimental biology at the Biological Laboratory at Cold Spring Harbor this summer. It had been previously announced that Professor W. W. Swingle, of Princeton University, would give this course.

THE Council of the American Psychological Association has confirmed the election by the Board of Editors of the *Psychological Review* Publications of Professor Herbert S. Langfeld, Princeton University, as editor of *The Psychological Review* to succeed the late Professor Howard C. Warren, and the election of Professor Joseph Peterson, George Peabody College for Teachers, as editor of the *Psychological Monographs* to succeed Professor Langfeld.

MRS. LEE P. CUMMINS has been made director of the Museum of Natural History and Industrial Arts at Memphis, Tenn.

DEAN HARRY E. CLIFFORD, of the Engineering School of Harvard University, has been appointed by President Roosevelt a member of the Board of Visitors of the United States Naval Academy at Annapolis.

DR. WILLIAM LOUIS POTEAT, president emeritus of Wake Forest College, North Carolina, formerly professor of biology, has been appointed associate utility commissioner on the State Utility Commission.

OFFICIAL delegates of the United States to the ninth International Congress of Pure and Applied Chemistry, which meets at Madrid on April 5 are John Van Nostrand Dorr, president of the Dorr Company, Incorporated, and Burrows Morey, both of New York, and Dr. Lauder W. Jones, professor of chemistry at Princeton University and associate director in Europe of the division of natural sciences of the Rockefeller Foundation.

DR. HENRY C. TAYLOR, American member of the permanent committee of the International Institute of Agriculture, Rome, and Dr. Lore A. Rogers, chief of the division of research laboratories, Bureau of Dairy Industry, Department of Agriculture, have been appointed to represent the United States at the tenth International Dairy Congress to be held in Rome from April 30 to May 6.

DR. JAMES W. MCBAIN, professor of chemistry at Stanford University, has been invited to go to Soviet Russia to attend the Mendelejeff Centenary in September. He will leave in June. He expects also to attend the meeting of the British Association for the Advancement of Science, which will be held at Aberdeen from September 5 to 12.

DR. WILLIAM W. CORT, professor of helminthology at the Johns Hopkins University, will sail for Egypt on March 20, where he will carry on investigations on schistosomiasis and hookworm disease under the auspices of the International Health Division of the Rockefeller Foundation. While in Egypt he will be associated with Dr. C. H. Barlow, who is in charge of a special project which the foundation has been carrying on in Egypt for the study of these diseases during the last four years. Dr. Cort will return to the United States early in July.

A GRANT to enable Dr. William Beebe, director of the department of tropical research at the New York Zoological Park, to resume his work in Bermuda next summer has been announced by Dr. Gilbert Grosvenor, president of the National Geographic Society. The project to be carried on off the coast will be known as the National Geographic Society-William Beebe Expedition. Dr. Beebe will be accompanied by an assistant, and plans to descend nearly half a mile inside the bathysphere in which he previously made a record descent of 2,200 feet. The expedition will make its headquarters near Nonsuch Island, at Dr. Beebe's new laboratory near the Bermuda Biological Station. The work will start in June.

A GRANT of $300 was made recently to Dr. M. H. Frohberg, assistant in the department of geology at the University of Minnesota, by the Geological Society of America, to finance an investigation of the genetic relations of certain gold-bearing ores in Ontario. He plans to begin his investigation in July.

CHARLES CARPENTER, who for two years has been carrying on research on cellulose in Germany, will continue his work at the Carnegie Institute of Technology, Pittsburgh, under a du Pont industrial grant.

DR. CHARLES EDWARD SKINNER, of the Westinghouse Electric and Manufacturing Company, will sail from San Francisco on March 20 for Japan, where he will deliver the Iwadare lectures in a number of

the larger cities, at the invitation of the Iwadare Foundation through the Japanese Institute of Electrical Engineers. The institute sends each year a certain number of graduates to America and invites in return American lecturers to Japan. The Iwadare lectures were given last year by Dr. A. E. Kennelly, professor emeritus of electrical engineering at Harvard University.

THE Cutter Lecture on Preventive Medicine at the Harvard Medical School, Boston, was given by Dr. Karl Landsteiner, member of the Rockefeller Institute for Medical Research, New York City, on March 16. He spoke on "Immunochemical Specificity."

DR. FRANZ BOAS, professor of anthropology, Columbia University, spoke on "Race and Civilization" in the series of lectures being given on "Focal Problems in Modern Society" arranged by the New York University Extension Division.

PROFESSOR EDWARD KASNER, of Columbia University, is giving a series of four lectures during March before the People's Institute of Cooper Union, on "Number, Space, Astronomy, Physics."

DR. WILLIAM BRAID WHITE, director of acoustic research of the American Steel and Wire Company, Chicago, and chairman of the Committee on Acoustics of the American Society of Mechanical Engineers, gave a lecture demonstration on "Music for Eye and Ear" on March 9 before the Master Institute and the Educational Committee of the Roerich Museum, New York City. All proceeds from this lecture have been given by Dr. White to the educational fund of the museum.

SIR WILLIAM BRAGG lectured before the Royal Institution on March 1 on the "Elements of Crystal Analysis."

THE Romanes Lecture at the University of Oxford this year will be delivered by Sir William Rothenstein, principal of the Royal College of Art.

THE fifteenth annual meeting of the American Geophysical Union will be held on April 26 and 27 at the building of the National Academy of Sciences, Washington, D. C. The preliminary program is as follows: Thursday morning, April 26, the sections of geodesy, volcanology and terrestrial magnetism and electricity; Thursday afternoon, the sections of meteorology, seismology and hydrology; Friday morning, the sections of oceanography and hydrology; Friday afternoon, general assembly of the union.

THE fifth Scientific Congress of the Pan American Medical Association is being held on a sixteen-day cruise lasting from March 14 to March 30, which has left New York for La Guaria, Venezuela. The program consists of twenty-four papers which will be read during the voyage from Havana to Caracas.

THE twelfth International Veterinary Congress will be held at the Waldorf-Astoria Hotel, New York, from August 13 to 18. This is the first time the organization has met in the United States, previous meetings having been held in Europe. The congress will discuss advances in the science and practise of veterinary medicine and surgery and will consider practical veterinary questions of world scope. President Roosevelt is patron of the congress and Secretary of Agriculture Wallace is vice-patron. Professor Dr. E. Leclainche, director of the Bureau of Epizootics, Paris, France, is president of the permanent committee in charge of arrangements, and Dr. John R. Mohler, chief of the Bureau of Animal Industry, U. S. Department of Agriculture, is a vice-president and will present one of the principal papers. Others on the program connected with the Bureau of Animal Industry are Dr. W. E. Cotton, superintendent of the Experiment Station, Bethesda, Md.; Dr. A. E. Wight, chief of the Tuberculosis Eradication Division; Dr. M. Dorset, chief of the Biochemic Division; Dr. M. C. Hall, chief of the Zoological Division, and Dr. E. C. Joss, assistant chief of the Meat Inspection Division.

THE New York Hospital and Cornell Medical College Association has received $100,000 through a bequest of the late Edward Wright Sheldon, chairman of the Board of Trustees. Princeton University received 100 shares having a par value of $100 in the Princeton Inn.

THE department of botany of the University of Nebraska has recently secured the herbarium of the late Rev. John M. Bates. The collection includes about ten thousand specimens of flowering plants and fungi, among which are numerous valuable additions to the flora of the state. The fungus collection includes a number of specimens that represent new species. The Bates collection will be added to the herbarium of the Botanical Survey of Nebraska, which now numbers approximately forty thousand specimens. The general herbarium, which is also the property of the department of botany, now numbers four hundred thousand specimens, including many of the important American and foreign exsiccatae. The collections are housed in fire-proof quarters in Bessey Hall.

THE London correspondent of the *Journal* of the American Medical Association reports that an airplane is to be used in Rhodesia to put up poison barrages against locusts as they pass across the country. An apparatus for spraying powder into the air has been sent from England and will be attached to the wings of the airplane. When locusts are reported, the machine will go up in search of them and will attempt to fly along the front of the swarm, spraying poison into the air so that they will fly into it. This is said to be a new experiment in the use of air-

craft against destructive insects. An airplane has been used to dust such crops as cotton with insecticides and has helped to rid forests of pests, particularly in Canada. But not before has it been used against migrating insects. It will carry 300 pounds of sodium arsenite. The method will probably be to overtake a swarm at a high altitude, descend to its level and spread a curtain of fine powder before it. The powder is expected to remain suspended for some time and to cause heavy casualties in a long column.

DISCUSSION

MOVEMENT OF PIGMENT GRANULES IN CHROMATOPHORES

SUMNER[1] proposed to designate the pigment granules in a chromatophore a "chromatosome," and movement of the granules out into the branches of the chromatophore "expansion of the chromatosome" and movement in the opposite direction "contraction of the chromatosome." I presented evidence in opposition to this terminology.[2] Sumner[3] does not agree with me in the conclusion reached on the basis of this evidence. He appears to agree with me, however, in the contention that a chromatophore is somewhat like a branched, heavy-walled rubber tube closed at the distal ends of the branches and at the other end joined to a heavy-walled rubber bulb filled with pigment granules suspended in a fluid, and that movement of the granules in the chromatophore is due to action in the heavy walls which surround the cavity containing the granules. But he maintains, nevertheless, that "the chromatosome, *i.e.*, the aggregate assemblage of pigment granules does *expand* and *contract* in the same sense that a volume of gas expands and contracts," and he concludes: "If the words, as I have used them, are misapplied, it is likewise incorrect to speak of the expansion and contraction of the mercury in a thermometer or of the air in a tire-pump."

It does not seem to me that this contention is sound, for expansion in a gas is the result of the action of the molecules of which the gas is composed and it involves increase in volume, whereas the distribution of the granules in a chromatophore is due to action in the wall which surrounds the cavity containing the granules, not to action of the granules or the fluid in which they are suspended, and there is no increase in the volume of the granules or the fluid in which they are suspended.

If (in a system consisting of a rubber tube connected with a rubber bulb filled with granules suspended in a fluid) pressure were brought to bear on the bulb so as to force the granules out into the tube, I do not believe it would generally be said that the mass of fluid and granules in that system has expanded. Nor do I believe that if mercury were forced out of the bulb of a thermometer into the capillary, owing to contraction of the glass wall of the bulb, it would generally be said the mercury has expanded. I consequently see no reason why one should say the mass of granules in a chromatophore expands if some of the granules are forced out into the branches, owing to contraction in the heavy wall which surrounds the cavity in which they are found.

I therefore answer in the negative Sumner's question, "Is it not just as accurate to say that urethane, for example, causes the chromatosomes [in the chromatophores] to expand as to say that this drug causes the pigment particles in the chromatophores to spread out?" And if the two clauses in this question are made equally explicit (by adding the content of the brackets) the second clause is practically as simple as the first; and it has moreover the advantage of avoiding the addition of a new term to scientific literature, which is already overburdened with terms. This clause is however not ideal as it stands, for it may imply action on the part of the granules. It would be more explicit, I think, to say the drug causes spreading or better distribution of the granules. The language used should describe the changes in the position of the pigment granules in the chromatophores without implying changes in the volume of the granules, either individually or as a mass, and without implying action on the part of the granules.

S. O. MAST

THE JOHNS HOPKINS UNIVERSITY

[1] SCIENCE, September 29, 1933.
[2] SCIENCE, November 10, 1933.
[3] SCIENCE, January 5, 1934.

ADVANCING GLACIERS IN ALASKA

I AM interested to read in your "Items" column in the *Science Supplement* of January 26 that the only advancing glacier in Alaska to-day is the Taku.

I have led three expeditions into Alaska in 1930, 1932 and 1933 and devoted much of my time personally to the study of the existing glaciers in the Lituya Bay and Yakutat districts. Of the five glaciers which we have measured over this period of time at Lituya Bay and Crillon Lake, *all but one* are advancing at a rate of two feet per week or higher. This advance is so rapid in one case that the glacier has over-ridden its older lateral moraines and is at present plowing its way into a forest outside of its former limits, indicating that to-day this glacier (the South Crillon Glacier) is at its greatest extent, both lateral and longitudinal, in fifty years or more.

The earthquake advance theory formulated by Tarr and Martin in their "Alaskan Glacier Studies," pub-