

rats do not necessarily yield results which can be applied to the depancreatized dog. It may be that inositol is one of the active constituents of lipocaic which affects depancreatized dogs, or it may be that other active fractions are present. The extracts of pancreas, as McHenry and Gavin have shown, affect the fatty liver produced by feeding biotin. This "biotin" fatty liver is characterized by a high content of cholesterol as well as of neutral fat. Choline affects cholesterol esters more slowly than neutral fat, and very large doses are required. The action of some active principle in lipocaic is much more rapid.

McHenry has advanced reasons for believing that the fatty liver of the depancreatized dog is of the biotin type. Without doubt there is evidence that cholesterol esters are deposited in increased amounts in the fatty liver of the depancreatized dog. Ralli and her collaborators<sup>25</sup> did not obtain fatty livers in depancreatized dogs fed on a diet from which the biotin fraction was presumably in part extracted. On the other hand, I feel that there is also good evidence that the fatty liver of a depancreatized dog is of the type due to the deficiency of choline. It is quite probable that both types may exist together.

It is important to emphasize the fact here that in the absence of the pancreatic enzymes, the amount of dietary choline, methionine or of other lipotropic factors absorbed from the intestine may be appreciably diminished, and this situation may in part be corrected by providing the pancreatic enzymes in the diet. We

have emphasized this possibility previously and Chaikoff, quite independently, has stressed the same point.

Dr. Dragstedt feels that he will eventually convince even the most skeptical that lipocaic is a second internal secretion of the pancreas. I suppose this would be even more interesting than the demonstration that another dietary factor is involved in the prevention of fatty livers in depancreatized dogs. I would like to take this opportunity to wish Dr. Dragstedt and his colleagues every success in their further work.

In review, let me outline the main trends of the choline investigations. It is apparent that choline is a growth factor; it profoundly affects fat transport and more indirectly carbohydrate metabolism; it may be formed when the methyl groups of methionine are presented to ethanolamine; it provides methyl groups for homocystine and perhaps for other substances; it is thus involved in protein metabolism. It prevents hemorrhagic kidney degeneration and other lesions in young rats and perosis in chicks and turkeys. Lastly, it is *one* of the factors in pancreas which prevents the development of fatty livers in depancreatized dogs.

In this article I have not attempted to do more than to sketch a picture, the details of which can not be filled in at this time. There are many gaps in my presentation of the known facts, but it will perhaps serve to indicate the possibilities of augmenting our knowledge of fat metabolism by further studies on choline and the other lipotropic factors.

## THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

### PRELIMINARY ANNOUNCEMENT OF THE DALLAS MEETING II

Edited by Dr. F. R. MOULTON

PERMANENT SECRETARY

#### SECTION AND SOCIETY PROGRAMS

*Section on Mathematics* (December 29, 30) on Monday morning will hold a joint session with the Institute of Mathematical Statistics and the Econometric Society. In the afternoon A. B. Coble, of the University of Illinois, will deliver his address as retiring vice president for the section on "A Certain Set of Ten Points in Space." The sessions on Tuesday will be for the presentation of contributed papers.

*Section on Physics and the American Association of Physics Teachers* (December 29, 30) will hold four sessions for the presentation of papers. On Monday morning the society will hold a session at

which four contributed papers will be presented. On Monday afternoon the section and the society will hold a joint session at which Arthur L. Hughes, chairman of the section, will deliver his address as retiring vice president of the association on "Applications of Electron Scattering." Following the address of Dr. Hughes, V. K. Zworykin and J. Hillier will present a paper on "Stereo-Microscopy with the Electron Microscope" and A. Glenn Richards, Jr., and Thomas F. Anderson will present their results on "Electron Micrograph Studies of Insect Structures."

The program on Tuesday will consist of two joint sessions at which only invited papers will be presented.

<sup>25</sup> E. P. Ralli and W. H. Rubin, *Proc. Soc. Exp. Biol. and Med.*, 43: 601-3, 1940.

*Section on Chemistry* (December 29-31) will present three symposia under the chairmanship of Dr. Edward A. Doisy, vice president of the association for the section, and join in a dinner on Monday evening in honor of Dr. George Scatchard, who will deliver an address as a retiring vice president of the association on "The Applications of Physical Chemistry to Biological Problems."

"Biochemistry" is the subject of the first symposium, at which 10 papers will be presented. They pertain to such subjects as manifestations of nutritional deficiencies, recent work on the vitamin B complex, amino acids and clinical effects of several vitamins, hormones and amino acids on tumors in rodents and inoperable tumors in man.

The second symposium is on "Spectrographic Analysis," at which 11 papers will be presented. They range from applications in the steel industry to determining the constitutions of the stars. They include contributions to such subjects of theoretical and practical interest as spectro-chemical methods for non-metallic analysis, ultraviolet absorption in organic molecules, the photoelectric spectrophotometer and gas analysis with the mass-spectrometer.

The third symposium is on the "Petroleum Industry," at which 9 papers will be presented. They cover chemical and geological aspects of the subject widely from the question of the origin of oil pools to the utilization of petroleum products in industry and in national defense.

*Section on Astronomy* (December 30, 31) will hold four sessions, primarily for the presentation of invited papers, including "Photometry of the Night Sky," by C. T. Elvey, of the McDonald Observatory; "Time Determination and Time Keeping," by Paul Sollenberger, of the Time Service of the U. S. Naval Observatory; "Problems of Nebular Research," by Edwin P. Hubble, of the Mount Wilson Observatory; "Progress in Eclipse Work," including colored moving pictures of the 1940 expedition to Brazil, by Paul A. McNally, of the Georgetown College Observatory; "Stellar Photometry," by L. V. Robinson, of the University of Mississippi; "Solar-Terrestrial Relationships," by H. T. Stetson, of the Massachusetts Institute of Technology, and "Progress in Planetary Research," by E. C. Slipper, of the Lowell Observatory. In addition, there will be a symposium on "Problems of Teaching Astronomy with Special Reference to Observational and Demonstration Equipment." An illustrated lecture on the planets with special attention to the recent close approach of Mars to the earth will be delivered by E. C. Slipper, of the Lowell Observatory. Robert R. McMath, chairman of the section, will deliver his address as retiring vice president of the association.

*Section on Geology and Geography* (December 29-31) in cooperation with the Geological Society of America, the American Geophysical Union, the Texas Academy of Science, the Dallas Petroleum Geologists, the Fort Worth Geological Society and the Association of American Geographers, will hold 6 sessions at which 40 papers will be presented.

On Monday, the morning session will be devoted to general geologic papers and to addresses by Charles N. Gould and Elmer H. Johnson, who will review contributions made by scientists from the southwestern states to geology and geography. Then will follow the feature of the session, the address by Hugh D. Miser, retiring vice president of the association and chairman of the section, on "Quartz Veins of the Ouachita Mountains of Arkansas and Oklahoma."

A symposium on the "Stratigraphy and Structure of the Southwest," arranged by a committee of which Charles L. Baker, of Texas A. and M. College, is chairman, will be held on Monday afternoon. Eight papers dealing with fundamental field problems of sedimentation and tectonics will be presented.

On Tuesday morning, under the joint sponsorship of the section and the American Geophysical Union, the work carried on for several years in the southwestern states by the Ground-Water Division of the U. S. Geological Survey and cooperating agencies will be reviewed. At this session a series of invited papers will be presented. The symposium will be introduced by O. E. Meinzer, who will outline the various types of problems which the subsequent papers will illustrate and elaborate.

On Tuesday afternoon the section will join with the Section on Anthropology for a series of papers on the present status of knowledge regarding Early Man. Representatives of the two sections have cooperated in the development of this program. A coordinated series of exhibits is being planned.

The geographic session on Wednesday has been developed by a committee of which Edwin J. Foscue, of Southern Methodist University, designated as the representative of the Association of American Geographers, is chairman. Six major papers will deal with geographic problems in the Southwest, ranging in scope from demography to land-use. It is tentatively planned that the papers will be followed by a round-table discussion on Southwestern Geography.

The Houston Geological Society has been invited to display its remarkable exhibit on petroleum geology. The committee which planned the Early Man symposium is also projecting an exhibit of artifacts and faunal associations. Other exhibits of geological and geographical materials and of teaching techniques are in preparation.

*Section on Zoological Sciences* (December 30) will

join with its affiliated societies in their programs and in the annual dinner of the American Society of Zoologists, after which John T. Patterson, chairman of the section, will deliver an address as vice president of the association, on "Drosophila and Speciation."

*American Society of Zoologists* (December 29-31) will participate with other societies in holding three symposia and in sponsoring the Biologists' Smoker, and on Tuesday evening it will hold its annual dinner to which all zoologists and friends are invited.

On Monday morning the society will hold a symposium on "The Genetic Control of Embryonic Development," at which papers will be presented by V. C. Twitty, of Stanford University, V. Hamburger, of Washington University, and Sewall Wright, of The University of Chicago. On Monday afternoon the society, in cooperation with the Botanical Society of America, the Ecological Society of America and the Genetics Society of America, will hold a symposium on "Isolating Mechanisms," at which papers will be presented by C. Ledyard Stebbins, Jr., of the University of California, Albert P. Blair, of Tulsa, Oklahoma, Alfred C. Kinsey, of Indiana University, and John T. Patterson, of the University of Texas.

The society, the Botanical Society of America and the Ecological Society of America will hold a symposium on "Temperature and Evolution" in two joint sessions, the former on Tuesday morning and the latter on Wednesday morning. At the Tuesday morning session papers will be presented by H. H. Plough, of Amherst College, G. Fankhauser, of Princeton University, George P. Child, of Amherst College, and Emil Witschi, of the University of Iowa. At the Wednesday morning session papers will be presented by H. J. Muller, of Amherst College, Walter Landauer, of the University of Connecticut, Alfred C. Kinsey, of Indiana University, and John A. Moore, of Queens College.

In the final session on Wednesday afternoon the society will participate with the American Society of Naturalists, the Genetics Society of America and the Botanical Society of America in holding a symposium on "Human Genetics," which was organized by Laurence H. Snyder, of Ohio State University. The contributors to this symposium are Laurence H. Snyder, of Ohio State University; H. H. Strandkov, of The University of Chicago; Charles W. Cotterman, of the University of Michigan; and L. S. Penrose, of Ontario Hospital.

*American Society of Parasitologists* (December 29-31) will present a program consisting of 58 papers and demonstrations representing the fields of protozoology, helminthology and medical entomology. At the Tuesday morning session, at 11 o'clock, James E. Ackert, president of the society, will deliver an address

on "Natural Resistance to Helminthic Infections." On Tuesday noon the society will hold a luncheon, followed by its annual business meeting. At the demonstration program on Tuesday afternoon tea will be served.

*The Section on the Botanical Sciences* (December 30) will hold a joint session on Tuesday afternoon with the Botanical Society of America, American Phytopathological Society, American Fern Society, Sullivant Moss Society, Mycological Society of America and American Society of Plant Taxonomists, at which M. L. Fernald, chairman of the section, will deliver his address as retiring vice president of the association on "Some Historical Aspects of Plant Taxonomy." The remainder of the session consists of invited papers by R. W. Chaney, W. H. Camp and L. J. Stadler on "Plant Distribution During the Past Fifty Million Years," "The Individual in Relation to Complex Populations in *Vaccinium*," and "Some Experiments in Gene Mutation," respectively.

*Botanical Society of America* (December 29-31) has organized programs for the presentation of papers under the General, Paleobotanical, Physiological and Systematic Sections of the society. In addition, the society will hold two symposia on the teaching of plant science, and it will join with other societies in symposia on "The Origin and Development of Floras of the Southwest," "Isolating Mechanisms," "Temperature and Evolution," and "Experimental Design and the Control and Measurement in Physiological Investigations."

*The American Phytopathological Society* (December 29-January 1) will hold its 33d annual meeting at the Hotel Adolphus. The program will consist of six sessions of the society for the presentation of papers, one demonstration session, three joint sessions with other societies for the presentation of papers, three conferences on special subjects and the annual dinner of the society on Tuesday evening. A distinguished foreign colleague, Dr. A. A. Bitancourt, of the Instituto Biologico de São Paulo, Brazil, will present a paper on "New Species of *Sphaeloma* on Myrtaceae." Dr. Bitancourt has been a member of the association since 1934.

The program of the society will begin with a business meeting on Monday morning, followed by three simultaneous sessions in the afternoon for discussions of "Fungicides and Fruit Diseases," "Virus and Tobacco Diseases" and "Small Grain Diseases," respectively. A conference on "Quarantines in Relation to Virus Diseases" is tentatively scheduled for the evening. On Tuesday morning two simultaneous sessions are planned for the consideration of "Corn and Sorghum Diseases" and "Truck Crop Diseases." On Tuesday afternoon the society will hold a joint ses-

sion with the Section on Botanical Sciences and simultaneously a conference sponsored by the extension plant pathologists on "Plant Pathology in Relation to National Defense and Post-war Readjustments." On the same afternoon a demonstration session will be held.

On Wednesday afternoon the society will hold a joint session with the Potato Association of America and a conference on "Seed Treatment Experiments" under the direction of the Committee for Coordination of Research in Cereal and Vegetable Seed Treatments. Reports will be presented on vegetable seed treatments, cotton seed treatments and cereal seed treatments. In addition, tentative plans have been made for a simultaneous session on "Forest Tree Diseases," followed by a session on diseases of southern and miscellaneous crops.

Members of the American Phytopathological Society will present approximately 103 papers at these sessions.

*The Mycological Society of America* (Dec. 30) will hold a session on Tuesday morning at which Ernst A. Bessey will deliver his presidential address on "Some Problems in Fungus Phylogeny." The society will present three symposia: (1) "Soil Fungi and their Activities," (2) "Fungi Pathogenic to Man and Animals" and (3) "Sex and Genetics of Fungi."

*Sullivant Moss Society* (December 31) will hold a session in both the morning and the afternoon for the presentation of papers.

*The American Fern Society* (January 1) will hold a session on Thursday morning, at which Joseph Ewan, president of the society, will deliver an address on "Problems Suggested by Field Work with the Aquatic Pteridophyta of Colorado." On Tuesday afternoon the society will join in the meeting of the Botanical Society of America.

*American Society of Plant Taxonomists* (December 29-31) will join with the Systematic Section of the Botanical Society of America in a session for the presentation of papers and will hold its annual dinner on Monday evening.

*American Society of Naturalists* (December 30, 31) will hold a joint session on Wednesday afternoon with related zoological and botanical sciences at which a symposium on "Human Genetics" will be presented. This symposium, consisting of 4 papers, was organized by Laurence H. Snyder. On Wednesday evening the society will hold the annual Naturalists' Dinner, at which W. W. Cort will deliver his presidential address on "Human Factors in Parasite Ecology." In conformity with custom, the society will arrange for the annual Biologists' Smoker, which will be held on Tuesday evening.

*Ecological Society of America* (December 29-31)

on Monday afternoon will hold a joint session with the American Society of Zoologists, the Botanical Society of America and the Genetics Society of America in a symposium on "Isolating Mechanisms." On Tuesday and Wednesday mornings the society will join the American Society of Zoologists in sponsoring a symposium on "Temperature and Evolution." A joint session with the Limnological Society of America will be held Tuesday afternoon. The annual banquet of the society, to which all interested biologists are invited, will be held on Monday evening, at which A. E. Emerson, the retiring president of the society, will speak.

*The Genetics Society of America* (December 29-31) will hold two symposia, two sessions for the presentation of papers, one session for a demonstration program and, at Tuesday noon, its annual luncheon and business meeting.

On Monday afternoon the society will join the American Society of Zoologists, the Botanical Society of America and the Ecological Society of America in holding a symposium on "Isolating Mechanisms," under the chairmanship of John T. Patterson, vice president of the association for the Section on Zoological Sciences. On Wednesday afternoon the society will participate in the symposium on "Human Genetics," which will be held under the chairmanship of W. W. Cort, and at which papers will be presented by L. H. Snyder, H. H. Strandkov, C. W. Cotterman and L. S. Penrose. At a special invitation program papers will be presented by G. B. Mainland, G. W. Beadle and E. L. Tatum, H. Roman, T. M. Sonneborn, A. W. Pollister and A. E. Mirsky and J. S. Gowen.

*The American Microscopical Society* (December 29) will hold its executive luncheon at noon and its annual business meeting at 4 P.M.

*The Limnological Society of America* (December 29-31) will hold its seventh annual meeting at Dallas. Both society headquarters and session meetings will be in the Jefferson Hotel. The first two days, Monday and Tuesday, are reserved for programs for the presentation of research papers. The session of Tuesday afternoon will be a joint meeting with the Ecological Society of America. Forty papers are to be presented during the two days; in addition, 13 papers appear on the program to be read by title only. The program for Monday forenoon and afternoon consists of papers of general limnological interest; that for Tuesday forenoon is composed largely of papers dealing with limnology as related to the various problems of fish and fisheries biology. On the program for the joint meeting with the Ecological Society will appear limnological papers having very general interest. The annual business meeting

of the society will occur at the close of the Tuesday forenoon session. Wednesday will be devoted to an all-day field trip to Eagle Mountain Lake and other points of limnological interest, under the leadership of local limnologists.

*National Association of Biology Teachers* (December 29) will hold two sessions for the presentation of papers and a dinner in the evening at which Walter F. Loehwing, of the University of Iowa, will deliver an address. The ten contributed papers cover a wide range of subjects of interest to teachers of biology.

*Phi Sigma Society* (January 1, 2) will hold sessions for the presentation of papers and a dinner, probably on Friday evening.

*Beta Beta Beta Honorary Biological Fraternity* (December 31) will have a luncheon on Wednesday in the Hotel Adolphus, after which Dr. C. E. McClung, president of the society, will deliver an address, at the conclusion of which a business session will be held.

*Union of American Biological Societies* (December 29) will hold its annual business meeting on Monday at 4 P.M.

*Section on Anthropology* (December 29, 30) will hold four sessions at which two major themes will be stressed: the archeology and culture areas of the Southeastern United States; and problems relating to early man with special reference to North America. The symposium on "Early Man" will be held jointly with the Section on Geology and Geography at the Tuesday afternoon session. E. B. Howard will outline the present status of the Folsom-Yuma problem. E. B. Sellards will discuss terrace deposits in the chronology of early man. R. M. Adams will report on early man in Missouri; A. O. Bowden and I. A. Lopatin, in California; C. W. Cooke, in Florida; M. S. Goldstein and G. L. Evans, in Texas, and F. C. Hibben, in Alaska. Contributors to the discussion of the Southeastern United States will include anthropologists from the Universities of Texas, Tennessee and Kentucky. There will be one session devoted to anthropometry, with papers by E. W. Count, T. H. Evans and others. Dr. W. Duncan Strong, chairman of the section, will deliver an address as retiring vice president of the association.

*Section on Psychology* (December 29, 30) beginning on Monday morning will hold a symposium on "Recent Advances in the Appraisal of Personality" under the chairmanship of Ernest R. Hilgard, of Stanford University. The subject of the symposium was selected in conformity with the suggestion of President Blakeslee that the *leit motif* of the meeting in Dallas be "Individuality" so far as might be practicable. The participants in this symposium include Pearl Brettnall,

of Tulane University; Doneaster G. Humm, of Los Angeles; Frank A. Peattie, of Rice Institute, and Dael Wolfe, of The University of Chicago.

On Tuesday the section will hold a joint symposium with the Section on Education on "The Psychology of Learning and the Educative Process," under the chairmanship of H. T. Manuel, of the University of Texas. The participants for the psychologists will be John A. McGeoch, of the State University of Iowa; Norman L. Munn, of Vanderbilt University, and Ernest R. Hilgard, of Stanford University. The participants representing the Section on Education will be A. A. Barr, of the University of Wisconsin; Harold F. Clark, of Columbia University, and H. Meltzer, of Psychological Service Center, St. Louis, Mo.

In addition to the symposia there will be two or more sessions for contributed papers.

The Section on Psychology and the Section on Education will join in a dinner on Tuesday evening at which Karl M. Dallenbach, chairman of the section, will deliver an address as a retiring vice president of the association. E. J. Ashbaugh, of Miami University, vice president of the association for the Section on Education, will also deliver an address.

*The Section on Social and Economic Sciences* (December 29-31) will present a program consisting of 6 sessions. The first session, in charge of a committee of Texas A. and M. College, will prepare the way for the 5 other sessions by presenting a general frame of information about the Southwest, including its human and natural resources and the changing pattern of its agricultural and industrial life. The second session, organized by A. B. Cox, of the University of Texas, will show how industry is developing in the Southwest and raising new problems.

The third and fourth sessions will be concerned with interracial problems, the former between Negroes and Whites and the latter between Spanish-Americans and Whites, that are arising because of the changing economy and conditions in Texas and adjacent territory. The former of these programs is under the charge of Daniel Russell, of Texas A. and M., and the latter is under the charge of George Sanchez, of the University of Texas.

One of the subjects of the fifth session, which is being organized in cooperation with the Office of Indian Affairs, will be the place of Indians in the economy of the Southwest and related problems. The final session, in charge of Earl O. Mills, regional counselor of the National Resources Planning Board, will be devoted to discussions of the plans that are being developed to meet the problems that are arising in the Southwest.

*Metric Association* (December 30) will hold a dinner meeting on Tuesday, at which there will be discussion

by the delegates from recently organized departments of the society, followed by its annual business meeting and discussion of plans for next year.

*The National Social Science Honor Society, Pi Gamma Mu, Inc.*, (December 31) will hold its annual social science luncheon on Wednesday, at which brief addresses will be delivered.

*The Section on Engineering* (December 31) will hold two sessions for the delivery of addresses and the presentation of papers. At the morning session, Dean Robert L. Sackett, retiring vice president of the association, will deliver an address. It is expected that C. M. A. Stine, of the Du Pont Company, John Suman, president of the A. I. M. E., and Everett De Golyer, will present papers, and Ross White, chief engineer for dam construction for the TVA, will present a paper. Dr. M. J. Thompson will review the present status of the aeronautical industry and attempt to project present developments beyond the present emergency.

*The Section on Medical Sciences* (December 30, 31) will present a symposium on "Relapsing Fever" in human beings as it exists in the United States and the Canal Zone. Twenty papers will be presented, beginning with a biographical sketch of Otto Obermeier, who detected spirochetes that were later proved to be the causative agents of the European disease. Other papers will discuss the present distribution of relapsing fever in certain southern and western states, the taxonomy of the spirochete, its performance on laboratory media, tick vectors and various clinical and laboratory aspects of relapsing fever. It is expected that these papers will be published as one of the association's symposia volumes on important public health diseases.

In addition, the section will hold sessions on December 31 for the presentation of papers on diverse problems of medical interest. At one of these sessions, Dr. Ernest W. Goodpasture, chairman of the section, will deliver his address as retiring vice president of the association.

*Subsection on Dentistry of the Section on Medical Sciences* (December 29, 30) will present a symposium on "Public Health Aspects of Dentistry, with special Reference to Fluorine." Such authorities on the subject as Frederick S. McKay, H. T. Dean, Philip Jay, Isaac Schour, Wallace Armstrong, Gerald Cox and C. F. Deatherage will present papers on the program.

*Subsection on Pharmacy of the Section on Medical Sciences* (December 29) will hold morning and afternoon sessions on Monday for the presentation of papers.

*American Society for Horticultural Science* (December 29-31), beginning on Monday afternoon, will

hold four joint sessions with other societies for the holding of symposia and the presentation of papers.

On Monday afternoon the Vegetable Section of the society will hold a joint session with the Potato Association of America for the presentation of papers on "Potato Breeding, Physiology and Production." On Tuesday morning the society will hold a joint session with the Section on Agriculture, at which W. H. Chandler, the chairman of the section, will deliver his address as retiring vice president of the association on "Forty Years of Helping the Farmer with Knowledge." At the same session several papers will be presented on various questions of reproduction and fruitfulness in horticultural plants.

On Tuesday afternoon the society will hold a joint symposium with the American Society of Plant Physiologists and the Physiology Section of the Botanical Society of America on "Experimental Design and Control and Measurement of Variation in Physiological Research." On Wednesday morning the society will join with the Biometrics Section of the American Statistical Association in holding a symposium on "Efficiency in Recent Methods for Controlling Field Heterogeneity."

At the annual banquet of the society on Tuesday evening F. C. Bradford, president of the society, will deliver an address on "Retaining What We Have."

*Potato Association of America* (December 29-31) will hold joint sessions with the American Society for Horticultural Science and with the American Phytopathological Society for the presentation of papers, in addition to independent sessions for the presentation of papers.

*Section on Education* (December 30, 31) will hold a joint session with the Section on Psychology, a symposium on conservation problems, which is being arranged by a local committee, a joint dinner, as usual, with the Section on Psychology and two sessions for the presentation of general papers.

At the joint session with the psychologists A. S. Barr, of the University of Wisconsin, will present a paper on "The Teacher and the Education Process"; Harold F. Clark, of Columbia University, on "The Effect of Diet on Learning"; and H. Meltzer, of Psychological Center, St. Louis, on "Education and the Learning Process." Among other participants in the program are Oliver S. Loud, of Teachers College; R. W. Lynch, of Oklahoma A. and M. College; and Stuart E. Noble, of Tulane University of Louisiana. Dr. Noble's paper will be on "Progress in the Elimination of Illiteracy in the South."

*The Society of the Sigma Xi* (December 30) will hold the business meeting of its forty-second annual convention on Tuesday afternoon. On Tuesday eve-

ning, in cooperation with the association, it will present as its speaker for its twentieth annual Sigma Xi Lecture Dr. Edwin P. Hubble, of the Mount Wilson Observatory, who will deliver an address on "The Expanding Universe Theory."

*United Chapters of Phi Beta Kappa* (December 31) on Wednesday evening will present as the speaker for its seventh annual Phi Beta Kappa lecture Dean Christian Gauss, of Princeton University, who will deliver an address on, "Can We Educate for Democracy?"

*American Science Teachers Association* (December 30) will hold sessions on Tuesday, the morning session jointly with the American Nature Study Society. On Tuesday noon the society will hold a luncheon at which Irving Langmuir, president of the association, will speak.

*American Nature Study Society* (December 30, 31) will hold four sessions for the presentation of papers and a breakfast on Wednesday morning. The session on Tuesday morning will be held jointly with the American Science Teachers Association, at which

Irving Langmuir, president of the association, will speak.

*The Honor Society of Phi Kappa Phi* (December 30) will hold its biennial meeting at 1:30 P.M. on Tuesday and on Wednesday morning. On Wednesday a breakfast will be held at 8:00 A.M., followed by a short business session. At 5:00 P.M. on Wednesday the society will provide a public lecture by Dr. Rufus B. von KleinSmid, president of the University of Southern California and president of Phi Kappa Phi.

*Gamma Alpha Graduate Scientific Fraternity* (December 30) will hold a meeting of its executive committee on Tuesday morning, its convention luncheon on Tuesday noon and a business meeting of the council and the election of officers on Tuesday afternoon.

*Sigma Delta Epsilon, Graduate Women's Scientific Fraternity* (December 29-January 1) will hold its national council meeting on Monday morning, a luncheon for all women in science at noon on Tuesday, a breakfast and its annual business meeting on Wednesday morning and a second national council meeting on Thursday afternoon.

## OBITUARY

### CHARLES PECHER

IN the death of Charles Pecher at the age of twenty-eight experimental medicine has lost a brilliant investigator who already had made important contributions in the application of nuclear physics to biology and medicine.

Dr. Pecher was born in Antwerp, Belgium, on November 26, 1913, his father being the Minister of Colonies. In 1923 he graduated from the Athenée Royal of Antwerp, and in 1939 received his doctor's degree from the University of Brussels with great distinction. From 1935 to 1939 he was laboratory assistant in physiology under Professor Rylant, and it was during this period that he did his first experimental work in biophysics. Also during this time he became interested in the biological applications of the newly discovered radioactive substances. Because of his interest in this field and because of his high standing in his class at medical school (having been awarded the Armand Kleefeld Prize, which is awarded each year to the medical student who has had the highest average in his course) he was awarded the fellowship of the Belgian American Foundation to study in the United States.

During the fall of 1939 he worked in association with Professors Edwin Cohn, Kistiakowsky and J. Wyman at Harvard, and later in 1940 he came to the Radiation Laboratory at the University of California, where he was appointed research fellow.

Because of his thorough training in both physics and medicine, and due to his industry and brilliance, he soon made important contributions in the new field of artificial radioactivity. He was instrumental in putting on a practical basis the production of large quantities of radioactive yttrium, which proved to be very valuable as a gamma ray source for radiography of metallic flaws. He added much to our knowledge of calcium metabolism and in his work using radioactive strontium he showed that strontium acts physiologically in a manner similar to calcium in the animal body and because of its localization in bone is now being used experimentally in the treatment of neoplastic disease of bone. Mrs. Pecher assisted him in some of this work. At the time of his death, Dr. Pecher was serving with the Belgian Army in Canada, preparatory to embarkation to join the Belgian Army in England, and his death cut short the life of a young man who already had made lasting and worthwhile contributions to science.

JOHN H. LAWRENCE

CROCKER RADIATION LABORATORY,  
UNIVERSITY OF CALIFORNIA, BERKELEY

### DEATHS AND MEMORIALS

DR. KENNETH DANIEL BLACKFAN, since 1923 professor of pediatrics at Harvard University, died on November 29 at the age of fifty-eight years.

WALTER MATHEW DUNAGAN, associate professor of theoretical and applied mechanics at the Iowa State