Professor Remsen was not satisfied with this and, with the aid of other chemists, he established *The American Chemical Journal*. With far-sighted vision, he made this a medium of publication for American chemists and not an organ of the Johns Hopkins University. For thirty-five years this journal was a very important agency for the promotion of genuine chemical work. It was the first American journal in this field which secured widespread recognition abroad and it would be difficult to overestimate its value in stimulating chemical work and in placing Americans in their rightful place among the chemists of the world. At the close of the fiftieth volume President Remsen decided that publication in America would be better served by incorporation of *The American Chemical Journal* with *The Journal of the American Chemical Society*. This was done and the latter journal carries on its title page a record of the consolidation of the two journals.

Remsen's first book was a "Theoretical Chemistry," written while he was at Williams College. It passed through five editions and was translated into German and Russian. His "Organic Chemistry" was published in 1883 and has been the medium through which many chemists, physicians and others have been introduced to the subject. His text-books of "Inorganic Chemistry," both elementary and advanced, are characterized by a logical, lucid style which has made them very popular and widely used. The "Organic Chemistry" was translated into many foreign languages and several of the other books were also translated.

A long series of students, trained in intimate association with Professor Remsen, are now widely scattered and many of them hold important positions as teachers and in the industries. They look back to him as to a father, who always required high quality in their work, who was wise in his advice and helpful in their difficulties.

Professor E. E. Reid writes, "It is impossible to characterize or describe Remsen. He had a keen sense of humor and a ready wit, a personality in the fullest sense of that term. He drew people to him but always kept them in their place."

In 1881 Boston had trouble with her water supply and Professor Remsen was called upon for his advice. He was fortunate enough to discover the cause of the difficulty. On many other occasions he was called upon for public services to Baltimore, Maryland and the United States. He was for some years a member of the Good Roads Commission of the state.

In 1901 Remsen succeeded D. C. Gilman as president of Johns Hopkins University. The resources of the university had been depleted by the depreciation of some of its securities and the period of his administration was a difficult one. In spite of this, the university continued its steady and satisfactory development. The school of engineering was founded and the cramped quarters in the heart of the city were exchanged for the magnificent campus which the university now occupies in the outskirts of Baltimore.

President Remsen retired in 1913. After that he spent his time in travel, in revising his books, in work for the government as chairman of the Referee Board organized during Roosevelt's administration to consider questions pertaining to the law for the control of food products and their adulteration, and in consulting work for one of our largest industrial corporations. He died at Carmel, California, in 1927, at the age of eighty-one.

He was the recipient of many honors. The degree of LL.D. was conferred by Columbia, Princeton, Yale, Toronto, Harvard and Pennsylvania. He was a foreign fellow of the London Chemical Society and foreign member of the French Chemical Society. In 1902 he was president of the American Chemical Society; in 1903, of the American Association for the Advancement of Science. During 1907–13 he was president of the National Academy of Sciences. In 1908 he was awarded the gold medal of the Society for Chemical Industry and in 1910 was president of that society. In 1914 he received the Willard Gibbs medal of the Chicago Section of the American Chemical Society.

In his boyhood Remsen was reared in a very strict, religious atmosphere and he retained a simple religious faith throughout his life. In his address "On the Life History of a Doctrine," delivered as president of the American Chemical Society, after pointing out that "faith is called for at every turn in scientific matters as well as spiritual," he said, "It would be as illogical to give them (atoms) up as it is, in my opinion, to deny the existence of a power in the universe infinitely greater than any of the manifestations familiar to us; infinitely greater than man; a power that 'passeth all understanding.'"

WILLIAM A. NOYES
UNIVERSITY OF ILLINOIS

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE RENO MEETING OF THE PACIFIC DIVISION—II

AMERICAN PHYTOPATHOLOGICAL SOCIETY, PACIFIC DIVISION

(*T. E. Rawlins, secretary pro tem.*)

The Pacific Division of the American Phytopathological Society met on June 23. The first paper, by W. T. Horne, discussed the fruit decays of the feijoa.

Botrytis cinerea Pers. was reported as the most common cause of decay in this fruit, with *Penicillium expansum* Lk. second in importance.

J. P. Bennett described a method of treating pear trees with ferric citrate for the control of lime-induced chlorosis.

The addition of a small amount of peat soil to a fertile potting soil was reported by T. E. Rawlins to treble the early growth of celery in this soil; the possibility of this increased growth being due to the celery mycorhiza was discussed.

Experiments reported by M. Shapovalov gave evidence that the western yellow tomato blight is transmitted by *Eutettix tenella* Baker. Typical disease symptoms were only produced under proper environmental conditions. It was suggested that the name of the disease be changed to "tomato yellows." This change was approved by the society.

H. S. Fawcett and W. R. Barger reported that the maximum rate of decay of citrus fruits by *Penicillium italicum* and *P. digitatum* was produced at temperatures between 66.8° and 80.6° F., temperatures above and below these limits being less favorable for decay. In most cases the rate of decay was much more rapid at the stem-end than at the stylar end of orange fruits.

A paper by L. J. Klotz on the enzymes of *Pythiacystis citrophthora* Sm. and Sm. reported positive evidence for the presence of the following enzymes in the mycelium of this fungus—lower esterases, diastase, invertase, maltase, emulsin, phloridzinase asparaginase, urease, peroxidase and catalase. An improved method of determining enzyme activity was described.

F. N. Briggs reported experiments in dehulling barley seed with sulphuric acid to induce infection with covered smut, *Ustilago hordei*.

Experiments on the influence of various environmental factors on the development of the curly-top disease of sugar beets were described by W. Carter.

BOTANICAL SOCIETY OF AMERICA, PACIFIC DIVISION

(J. P. Bennett, secretary, Berkeley, California)

The Botanical Society of America held three half-day sessions on June 22 and 23. From 30 to 50 people were present at each session. Twenty-three papers were presented.

The following officers were elected for 1927–1928:

D. R. Hoagland, *president;* University of California, Berkeley, California.

G. M. Smith, *secretary;* Stanford University, California.

ECOLOGICAL SOCIETY OF AMERICA

(A. G. Vestal, Secretary for the Reno meeting, Stanford University)

The Ecological Society of America held a joint session with the Western Society of Naturalists, as fully reported by the secretary of that society. It may be said here that the excursion to Pyramid Lake on Friday, in which all the ecologists attending the meeting participated, proved of unusual interest to the ecologists.

PACIFIC COAST ENTOMOLOGICAL SOCIETY

(E. P. Van Duzee, secretary pro tem., San Francisco)

The Pacific Coast Entomological Society met in the Agriculture Hall, with 37 members and visitors in attendance. In the absence of the regular officers of the society Mr. E. P. Van Duzee called the meeting to order and proposed Professor C. W. Woodworth as chairman *pro tem.* Mr. Van Duzee was asked to act as secretary for the meeting. There was no formal program, but Dr. G. Dallas Hanna gave a most interesting talk on his experiences in collecting insects in Alaska during the years he was engaged in government work there, and Dr. Frank R. Cole told of some studies he had made on the curious flies belonging to the genus *Diopsis*, and later also gave some account of the insect collecting he had done during his residence in Florida. A general discussion of these matters and notes by other members and visitors filled the time of the meeting.

SAN FRANCISCO AQUARIUM SOCIETY

(C. J. MacMeekin, secretary, Mill Valley, Calif.)

The San Francisco Aquarium Society held one joint session with the Western Society of Naturalists and participated in the excursion to Pyramid Lake.

WESTERN PLANT QUARANTINE BOARD

(W. C. Jacobsen, secretary, Sacramento, California)

The ninth annual conference of the Western Plant Quarantine Board was held immediately preceding the regular sessions of the Pacific Division.

This board was organized in 1919 at Riverside, California, under the leadership of Mr. G. H. Hecke, the present director of agriculture for California. Its territory includes the eleven western states, also Hawaii, the State of Lower California, Mexico and the Province of British Columbia, Canada.

It was the first, hence the pioneer, regional plant quarantine board, of which there are now four cover-

ing the entire United States. These four regional boards are further coordinated by the National Plant Board, a foster-parent in touch closely with national quarantine matters. It is unique in that it incorporates in its membership representatives from territories outside of the United States.

The Reno session of the board necessarily attended to matters of vital interest to the western area, involving similar plant quarantine action against pests found in other sections of the United States, discussion of uniform basic quarantine laws passed by recent legislatures and the harmonizing of state quarantines pertaining to quarantinable commodities moving between the several states and territories represented.

Chairman Oscar Bartlett, state entomologist of Arizona, presented clearly the importance of detailed and careful inspections of vehicles crossing state boundaries as a means of preventing the introduction and spread of serious plant pests, also emphasizing the readiness of dangerous insects to enter from parts of Mexico unless a consistent and vigilant check is kept on all incoming plant commodities.

The recent introduction of the Mexican fruit fly into Texas was discussed by G. H. Hecke, pointing out that this dangerous insect was the first representative of a group of seriously destructive *Trypetidae* to become established in the United States. He clearly defined the menace presented and spoke of the importance of eradicating it and suppressing further spread by necessary quarantine action under the leadership of the Federal Horticultural Board.

The determined attitude taken by Secretary Jardine in maintaining a rigid quarantine against Spanish grapes because of Mediterranean fruit fly infestation was commended.

There were general discussions on the control of European earwig and insect pests of narcissus bulbs, the latter by Chas. F. Doucette and Dr. Frank Cole of the U. S. Bureau of Entomology. Other pests under consideration were Mexican bean beetle, alfalfa weevil, Colorado potato beetle, Thurberia weevil, and pink bollworm of cotton.

An important feature of the meeting was the submission of detailed lists and reports on economic pests, both insects and diseases, in the various states represented in connection with the reports on quarantine conditions in each state during the year preceding.

Two official representatives from the Mexican Department of Agriculture and Development, Dr. Alfons Dampf, chief entomologist, and Mr. Enrique Coppel Rivas, inspector general of fumigation and plant quarantines, indicated the progress being made in Mexico in the matter of pest detection and control, as well as detailed reference to the procedure in effect in the three west coast states of Mexico, namely, Sonora, Sinaloa and Nayarit, to prevent introduction of dangerous insects existing in other portions of the Republic of Mexico. This area was, until the spring of 1927, quite isolated, but is now made more subject to pest introduction and distribution by the completion of a new rail line. New regulations are in effect in Mexico against Mediterranean fruit fly hosts from foreign countries. The importance of their cooperation with our western states on the Pacific Coast was emphasized.

To the end that there might be a better understanding between pest conditions in Mexico and in the United States and the relationship of adequate protection against the introduction into either from each of the countries of dangerous insect pests and plant diseases, there was recommended to the authorities at Washington the creation of an international crop pest commission to make careful study of the entire situation, its findings to be made available in an advisory way to the regularly constituted authorities in each republic.

The value of uniformity in apiary inspection regulations and quarantines brought about the suggestion that a permanent committee be formed within the organization to bring about harmonious action as to quarantine regulations and uniform organization in the various states for the elimination of American foul brood.

A standing committee on pest surveys was continued, as well as a committee on uniform treatments, this latter committee to investigate all methods of treating plant products either by sprays, fumigations, both atmospheric and in vacuum, various dips, dry heat and hot water treatments, etc., in order to determine if any feasible methods could be utilized to make safe the interstate and intrastate movement of pest hosts by secure treatments.

The Western Plant Quarantine Transportation Committee, consisting of representatives of railway and express companies, was in attendance to aid in the correlation of pest prevention methods insofar as common carrier agents could assist.

A further detailed discussion of the value of automobile inspection was presented by A. C. Fleury, of California, basing the same on one full day's interception of pests. Representatives of the Office of Blister Rust Control, C. R. Stillinger and S. N. Wyckoff, explained the program in effect to stem further spread of this disease of white pines through elimination of currants and gooseberries and by quarantine enforcement.

The officers elected for the ensuing year are:

George G. Schweis, *chairman;* entomologist, State of Nevada.

J. I. Griner, *vice-chairman;* horticulturist, Washington State Department of Agriculture, Olympia, Washington.

M. L. Dean, representative on the National Plant Board; director, Bureau of Plant Industry, Idaho Department of Agriculture.

W. C. Jacobsen, *secretary;* chief, Bureau of Plant Quarantine and Pest Control, California State Department of Agriculture, Sacramento.

WESTERN SOCIETY OF FARM ECONOMICS

(P. V. Cardon, secretary, Logan, Utah)

Farm economists of the eleven western states met with the Pacific Division on June 22 and 23, and perfected an organization to be known as the Western Society of Farm Economics. The purpose of this society is to promote understanding among western farm economists relative to economic problems in the respective states, the methods used in studying these problems and the progress made toward their solution. The association will aim also at coordination of effort wherever coordination is practicable.

The society met in the Mackay School of Mines building of the University of Nevada, where they were welcomed by President Walter E. Clark. President Clark opened the conference by outlining some economic problems involved in public land administration in the Intermountain Region. The remainder of the first day was spent in a consideration of projects in agricultural economics as they were outlined by delegates of the states represented. Suggestions for coordination of work and standardizing methods of investigation were offered by B. H. Critchfield, of the U. S. Bureau of Agricultural Economics.

The program of the second day was as follows:

"Investigations in Farm Management," by George L. Sulerud, University of Idaho, read by R. C. Engberg, University of Idaho; discussion led by P. V. Cardon, Utah Agricultural College.

"Investigations in Cost of Production," by R. T. Burdick, Colorado Agricultural College; R. M. Clawson, University of Nevada, and H. D. Scudder, Oregon Agricultural College.

"Marketing Problems," by R. L. Adams, University of California, read by S. W. Shear, University of California.

"Factors affecting the Supply of Farm Products," by E. Rauchenstein, University of California.

"Need of Statistical Measurements in determining and Correctly interpreting the Irrigation Situation," by Charles H. West, University of California.

"Collecting and disseminating Economic, Statistical and Marketing Information," by L. R. Breithaupt, Oregon Agricultural College.

Officers for the ensuing year are: F. B. Headley, University of Nevada, *president;* H. D. Scudder, Oregon Agricultural College, vice-president; P. V. Cardon, Utah Agricultural College, *secretary-treasurer.*

WESTERN SOCIETY OF NATURALISTS

(C. V. Taylor, secretary, Stanford University)

The Western Society of Naturalists held its twelfth annual meeting on June 23, in affiliation with the Pacific Division. As evidence of the continued activity of this biological organization, which alone is distinctly western in origin and representation, it should be noted that the day's program included reports of 20 investigations from eight different research laboratories. The afternoon session was held jointly with the Ecological Society of America.

In his paper, "Contribution to the Replacement of the Linnaean System of Nomenclature," Dr. G. Dallas Hanna said that the Linnaean system of binomial nomenclature of animals and plants, established in 1758, has been a constant cause of dissension ever since. If we accept evolution as a fact we can not assume that all species were created as they now exist and will never change. Nor can we consistently persist in the naming of such assemblages of individuals as we think have common ancestry. We may as well admit that species in the Linnaean sense, created entities, do not exist in nature. Therefore, in addition to dropping the genus as a part of the name it would appear to be advisable to define a species as an individual organism or part of an organism deposited in a public museum and to which a name has been given and duly published. Supposed relatives of this specimen might bear the same name.

Professor S. J. Holmes, discussing "The Differential Mortality of the Negro," concludes that the American Negro is building up an increasing degree of immunity to two of the greatest scourges of the colored race—tuberculosis and pneumonia; further, that Negroes are less susceptible than the whites to scarlet fever, diphtheria, measles and various other maladies. Since, due to both an increasing immunity and improved sanitation, the birth-rate of the Negro, particularly in the north, may probably soon exceed the death-rate, the biological fate of this race is of prime importance in the eventual composition of the American people. In the long run, this question will likely be decided on the basis of differential mortality.

Dr. Laurence Irving reported results of recent studies on phosphoric acid changes in worked mam-

malian muscle. Acid-soluble inorganic phosphorus of cat muscle may be either increased or diminished by brief tetanic stimulation to exhaustion, with apparent corresponding changes in "lactacidogen." Protracted interrupted stimulation, even if not resulting in fatigue, causes increase of the phosphorus and decrease in "lactacidogen."

Howard C. Day presented experimental evidences that show both for structure and behavior distinctly close similarities in the contractile vacuole in *Amoeba, Spirostomum* and *Paramoecium*.

Laura Garnjobst briefly described a new marine *Euplotes* and her method for inducing at will both the encystment and excystment of this species.

From results of recent experiments by methods of microdissection on early developmental phases in the eggs of the starfish *Patrica miniata,* D. M. Whitaker concluded that the "antipolar" yolk or some substance with it is essential for normal invagination and that in grafted halves following a cut through the polar axis the haploid half tends to invaginate sooner than the diploid half.

P. L. Radir reported evidence from experiments on a new marine amoeba, for a monaxial polarity which persists not only throughout the activity of the normal amoeba but also in its reorganization following the excision of either its anterior or its posterior end.

In his paper on "The Fundamentalists and the Origin of Species," Dr. Barton Warren Evermann expressed regret that any biologists felt it necessary for science to be represented at the Scopes trial at Dayton, Tennessee, where the only question before the court was whether John T. Scopes had violated a state law. The question of the origin of species was not before the court.

But why should our people believe in the evolutionary origin of species when they have had no opportunity in our schools to make any study of species of animals and plants, the only way by which any one can get any clear conception of what a species is or how species originate? A recent survey of the curricula of the 302 high schools in California showed that only a negligible percentage of the 126,000 pupils enrolled were afforded any chance whatever to study species of animals or plants. Systematic zoology and systematic botany as school subjects are no longer thought worth while; so our children go through the schools without ever getting any experience in the study of species and therefore leave the schools ignorant of the facts and principles of the evolutionary origin of species.

In his studies on "Luminescence of a Cirratulid Worm," Professor A. R. Moore found that luminescence of the cirri may yield light of brightness equal to 6 milliamberts. Exposure to clear sunlight for half an hour scarcely affects the luminescence of the live worm, but the luminescent material obtained by crushing the worm on filter-paper is destroyed by sunlight in about thirty seconds, and by exposure for nine minutes to a 6,000 candle meter light. Failure of light to inhibit luminescence in the living worm is presumably due to the rapid synthesis of the luminescent material.

Francis G. Gilchrist reported the results of experiments in which he subjected amphibian (*Triturus torosus*) eggs in their cleavage stages to a horizontal temperature gradient. The primary polarity of the eggs and the fundamental bilaterality were not certainly affected, but the subsequent development of the dorsal axial structure was markedly influenced.

In her paper on "The Flora of Guadalupe Island, Past and Present," Miss Alice Eastwood said that on account of the great number of endemic species that have been found on the island, the flora is peculiarly interesting and is rapidly being destroyed by the goats that were introduced many years ago to furnish fresh meat to mariners in danger of scurvy and which have increased without the restrictions of natural enemies. In looking over the small collection made on the island by H. L. Mason on the Expedition of the California Academy of Sciences to the Revillagigedo Islands in 1925, it seemed desirable to bring together the scattered records of the various collections made on the island, showing the gradual extermination of species, the introduction of some, generally weeds, and the relationship of the flora to that of the mainland.

Dr. Walter Carter reported experiments in spraying sugar beets with various light-absorbing pigments to determine influence of illumination on susceptibility to curly-top disease and on partial resistance to it. Interception of heat-producing rays proved beneficial.

Dr. W. S. Cooper's studies of the dune area northeast of Monterey, which were greatly aided by airplane photographs, correlated the older extensive dunes with a period of uplift and the younger dunes near the present shore with more recent subsidence. He pointed out how ecology may contribute to geology. Available moisture in a California locality for 1923–24 was less than one fifth of that for 1926–27, as shown by Dr. A. G. Vestal. Soil-texture data confirmed his observation that soils of chaparral habitats are generally coarser than those of grasslands.

In his paper on "Some Experiments in changing Young Salmon from Fresh to Salt Water," Alvin Seale said that during the past year the experiments had been conducted at Steinhart Aquarium with the

young of the Chinook salmon, *Oncorhynchus tschawytscha*. The fishes were taken from the hatchery, their age and size were recorded, the conditions under which the experiments were conducted were under perfect control, all sudden changes of temperature were avoided, and specific gravity and temperature readings were taken each morning.

Professor G. J. Peirce reported further studies on crystallizations in brines taken from the Bay of San Francisco. As observed under high magnification, particles of foreign matter come to be incorporated into the growing crystal. If unicellular algae are thus entrapped, they will demonstrate the pressure developed in the growing crystal, for their pear-shaped cells will be pressed into slender spindles. These spindles do not resume their original shape when the crystal containing them is dissolved, which indicates that a very considerable force attended their compression. On the other hand, grains of starch, droplets of oil and other bodies of relatively simple chemical compound are not deformed, showing that their mechanical strength is greater than that of protoplasm, which is composed of several or many compounds.

The "Distribution of Nudibranchiate Mollusca" was discussed by Professor F. M. MacFarland, whose extensive studies on this problem are conclusive in showing that the more uniform conditions of Arctic seas permit the wide distribution of a single or small number of species of each genus, which, extending southward, has become split up into an increasingly larger number of species in response to the diversified environmental conditions met with. More temperate and tropical waters contain forms whose affinities indicate utilization of former marine connections across Central America and between the Mediterranean and the Indo-Pacific seas.

Following are the officers of the Pacific Division American Association for the Advancement of Science for 1927–1928, elected at the Reno meeting:

President: C. A. Kofoid, professor of zoology, University of California.

Vice-president: Ernest G. Martin, professor of physiology, Stanford University.

Secretary-Treasurer: A. G. Vestal, Stanford University, California (to take effect October 1, 1927).

EXECUTIVE COMMITTEE OF THE PACIFIC DIVISION

Ernest G. Martin, *chairman*, professor of physiology, Stanford University, California.

C. A. Kofoid, professor of zoology, University of California, Berkeley.

Walter S. Adams, director, Mount Wilson Observatory, Pasadena (1928).

Bernard Benfield, consulting engineer, Kohl Building, San Francisco (1929).

Joel H. Hildebrand, professor of chemistry, University of California, Berkeley (1929).

Leonard B. Loeb, associate professor of physics, University of California, Berkeley (1931).

Emmet Rixford, professor of surgery, Stanford University, 1795 California Street, San Francisco (1928).

J. O. Snyder, professor of zoology, Stanford University (1930).

O. F. Stafford, professor of chemistry, University of Oregon, Eugene (1930).

W. W. SARGEANT,
Secretary.

SCIENTIFIC EVENTS

THE MEDICAL SCHOOLS OF THE UNITED STATES

THE Secretary of the Council on Medical Education and Hospitals of the American Medical Association, Dr. N. P. Colwell, in a statement made public on July 11 by the Bureau of Education, Department of the Interior, reports that during the past two years changes made in medical schools in the United States have been chiefly in the erection of new buildings, improvement of teaching staffs, the rearrangement of subjects in the curriculum, and closer affiliations with hospitals, with increased opportunities for students personally to study diseases at the bedside in dispensaries and hospitals.

The number of medical schools fluctuated from 80 in 1923 to 79 in 1924, when the General Medical College of Chicago was discontinued, and back to 80 in 1925, when the University of Rochester School of Medicine and Dentistry was added. In 1926 the charter of the Kansas City College of Medicine and Surgery was revoked, but a new institution was promptly chartered to take its place under the name of the American Medical University of Kansas City.

During the past two years the number of medical students has continued to increase. Instead of only 12,930 in 1919, the number increased to 17,728 in 1924; to 18,200 in 1925; to 18,840 in 1926; and to 19,532 (estimate) in the session of 1926–27.

The number of graduates also increased from 2,529 in 1922 to 3,562 in 1924 and to 3,974 in 1925, but decreased to 3,962 in 1926. Although the number of medical schools has remained at about 80 since 1920, the numbers of both students and graduates have increased.

At the beginning of the reorganization of medical schools in 1906 the 162 medical schools then existing enrolled 25,204 students, an average of 156, and turned out 5,364 graduates, an average of 33. Last year (1926), however, the 79 medical colleges in the United States enrolled 18,840 students, an average