News and Notes

Current Activities in Psychology

Approximately 6000 psychologists met in New York on 3–8 Sept. for the 62nd annual meeting of the American Psychological Association. The presidential address, given by O. Hobart Mowrer of the University of Illinois, was on the topic "The psychologist looks at language." Based on a thorough survey of the scientific study of language, the address emphasized that findings in many fields of psychology, such as learning, perception, psychotherapy, and so forth, are relevant to research on language and that the sentence, as a unit of meaning, needs to be viewed from a psychological standpoint.

The 17 divisions of the association sponsored 364 programs of individual research papers, symposiums, discussion groups, and addresses. Following are a few examples of the kinds of activities and reports that took place during the meetings.

D. O. Hebb (McGill University), in a symposium on *Unlearned Behavior,* challenged the "exaggerated role of heredity" in both mental disease and in intelligence assigned by some scientific workers. He pointed out that no behavior in mammals, including man, aside from reflexes, is either altogether innate or learned. No behavior is independently governed by heredity or environment. The trouble has been, according to Hebb, that some research on mental disease, the emotions, and the intellect has obscured the environmental factors by controlling them in experiments.

James Olds (McGill University) reported on a research study, using rats as subjects, in which it was shown that direct electric stimulation of various parts of the brain has a reinforcing, or rewarding, effect on the animal's behavior. Moreover, it was reported, this reinforcing effect is not the same in all parts of the brain, with the most positive response being obtained from the septal area, a relatively neutral response from the hippocampus, and negative reinforcement from the primary sensory pathways.

Marilyn K. Rigby and Walter L. Wilkins (St. Louis University) reported on a comparison between militarily oriented and clinically oriented approaches to the definition of selection problems. When psychologists and psychiatrists attempt to determine and specify the personality attributes essential for success in a military assessment situation, problems of misunderstanding between them and military officers frequently arise. In this study it was discovered that if these personality characteristics are presented in behavioral terms, rather than by their trait or attribute names, a high degree of agreement on what is relevant can be achieved. John R. Barry, Saul B. Sells, and Bart Cobb (USAF School of Aviation Medicine, Randolph Field) reported that the cadets who are best adjusted to the aviation training program have a history of participation in active, athletic, thrill-seeking activities to a greater extent than those who are inadequately adjusted.

Norman Frederiksen and D. R. Saunders (Educational Testing Service) reported on a "working test" for executives, known as the "in-basket" test. The aspiring executives, Air Force officers in the original research, were confronted with an in-basket full of letters, memoranda, and so forth, calling for action. They were cast in the role of a wing commander, or chief of a staff division of the imaginary Air Force wing, and they were given 2 hr in which to clear out their in-baskets.

From information obtained in interviews with 1000 persons who had recently been involved in 70 different disasters, such as tornadoes, earthquakes, and train wrecks, Eli S. Marks and Charles E. Fritz (National Opinion Research Center) reported that "behavior in the disasters studied has been much more rational and controlled than might be assumed from the popular literature on disaster." The report concluded that

> The amount of prior warning of a disaster impact may have a very substantial influence upon the severity of the losses sustained and the type of reaction exhibited. While respondents with considerable forewarning of disaster impact are likely to react more adaptively (and to sustain lesser loss) than those with no forewarning, there is evidence which suggests that *very brief* forewarning periods may be harmful rather than helpful.

At a symposium, *Some Contributions of Psychology to the Understanding and Appreciation of Other Academic Fields,* the place of psychology in interdisciplinary courses was described by Irwin A. Berg (Northwestern University) and Clarence Leuba (Antioch College). At Northwestern a 1-yr course in social science is presented jointly by the departments of anthropology, psychology and sociology, while at Antioch a 2-yr course on man covers the fields of anthropology, biology, psychology, and sociology.

The role of the psychologist in the medical school was discussed by Milton Horowitz (Western Reserve University) at a symposium, *Psychology in the Redevelopment of Curricula in Medical Schools.* In addition to his clinical responsibilities, the psychologist participates in the planning and giving of lectures and demonstrations on topics with which he has a special familiarity, leads staff seminars dealing with recent developments in fields related to various medical disciplines, and cooperates in research projects with both staff members and students.

The Thayer Work Conference on Functions, Qualifications, and Training of School Psychologists was held for 10 days preceding the convention. Requested by the APA Division of School Psychologists, this conference was sponsored by the APA Education and Training Board and financed by a grant from the U.S. Public Health Service. The reports of the conference strongly supported the movements already begun in various other areas of psychology for establishing uniform standards of training requirements for school psychologists.

It was announced during the convention that the first national registry of persons and agencies qualified to give psychological services is being prepared by a separately incorporated organization named the American Board of Psychological Services. For the first year members of the board will be Nathan Kohn, Jr., Karl F. Heiser, Wendell S. Dysinger, Roy Brener, and Arthur L. Irion.

E. Lowell Kelly (University of Michigan) will serve as president of the American Psychological Association during 1954–55.

STAFF, *American Psychological Association Washington, D.C.*

Synchronization of Cell Division in Microorganisms

An important problem in microbiology is the study of the variation in properties that must occur during the stages in the division cycle of cells. Such studies in the populations of growing cells are difficult because of the random occurrence of cell division which results in a smooth exponential increase in the total amounts of cell components and metabolic activities. Recognition of this problem has resulted in a number of recent papers devoted to techniques for the synchronization of cell division and to the properties of synchronized cultures.

Starting with single *Tetrahymena* cells. E. Zeuthen [*J. Embryol. Exptl. Morphol.* **1**, 239 (1953)] was able to study synchronized growth through four division cycles. He made the rather surprising observation that the respiratory activity per cell increased linearly rather than exponentially during the interval between cell divisions in which the cells were increasing in size. This suggested that growth, when divorced from cell division, is not autocatalytic. O. Scherbaum and E. Zeuthen [*Exptl. Cell Research* **6**, 221 (1954)] then developed a method for the synchronization of cell division in mass cultures of *Tetrahymena*. A growing culture was raised from the optimum growth temperature of 29°C to the sublethal temperature of 34°C for ½ hr. This interrupted cell growth and the initiation of cell division, but it did not prevent the completion of divisions already in progress. On the return of the culture to 29°C, synthesis of protoplasm resumed, but there was no cell division. During 8 hr of these cyclic temperature changes, the cells increased three- to fourfold in size without cell division. If the culture was then held at 24°C, there was a lag period of about 90 min, after which about 85 percent of the cells divided nearly simultaneously. Two additional division cycles followed at less than 2-hr intervals, the proportion of synchronized cell divisions gradually decreasing. Further information [in press] about this system was reported by Zeuthen and Scherbaum at the Colston symposium on cell physiology.

A remarkable physiological change correlated with synchronized cell divisions was described by R. D. Hotchkiss [*Proc. Natl. Acad. Sci. (U.S.)* **40**, 49 1954)]. Using pneumococcus, a culture growing at 37°C was cooled quickly to 25°C. After 15 min at 25°C, a return of the culture to 37°C resulted in a prompt division of most of the cells in the culture, followed 30 min later by a second wave of divisions. The susceptibility of the culture to genetic transformation with pneumococcal DNA increased markedly during the period at 25°C and then decreased abruptly to a low level during the subsequent period of rapid cell division at 37°C. Following this minimum, there was a second peak of susceptibility to transformation, often higher than the first maximum. Appropriately spaced alternations of temperature maintained the culture in phase during several cycles of changing susceptibility to transformation.

Another example of a synchronized cyclical change in physiological properties was also reported at the Colston symposium by O. Maaloe and K. G. Lark [in press]. A culture of *Salmonella typhimurium* could be forced into synchronous cell division by alternating periods of 28 min at 25°C and 8 min at 37°C. The physiological property under study was the conversion of the bacteria to the lysogenic state by infection with a temperate bacteriophage. The efficiency of lysogenization per bacterial cell doubled coincidentally with an increase in the average number of nuclear bodies from two to four per cell, and then decreased to the initial value during cell division, which restored the average nuclear frequency to two per cell. Further details of the synchronization procedure have been reported by Lark and Maaloe [*Biochim. et Biophys. Acta* (in press)].

It seems evident that the synchronization of cell division in cultures of microorganisms may aid the solution of many problems. It is possible, for instance, that an enlightened application of such techniques might help to resolve those controversies in the field of bacterial cytology that have a factual basis.—M. H. A.

Science News

Secretary of Commerce Sinclair Weeks has announced the appointment of an **Advisory Committee on Application of Machines to Patent Office Operations.** Its chairman is Vannevar Bush, president of Carnegie Institution of Washington. Secretary Weeks said:

> The establishment of this Committee of outstanding experts is aimed at finding new ways to speed up the processing of patent applications, thereby stimulating economic growth and employment that result from new inventions. . . . Each individual patent application requires reference to innumerable patents to determine whether the idea is brand new. As the field of invention is constantly being enlarged, the field of individual processing likewise must be expanded.
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> If high speed electronic devices can be used to replace time-consuming manual sorting and searching of reference material, the result could be a tremendous boon to inventive progress.

The publication last August of the so-called "Riehlman Report," the report of the Committee on Government Operations that is formally titled ***Organization and Administration of the Military Research and Development Programs,*** stimulated a good deal of public comment. Recently a complete transcript of the extensive hearings that led to that report has been made available. This detailed record, which includes the testimony of many well-known scientists, has renewed interest in the Government's administration of scientific research and has resulted in a number of published statements. Among them is the following editorial, which appeared in the 1 Nov. issue of *Time*.

> The worried debate about the relationship of science and government got a going-over last week from widely divergent angles. In a new Government document, *Organization and Administration of the Military Research and Development Programs,* the scientists told some of their own troubles. In an impressive editorial, the Protestant *Christian Century* pointed out the cause of their distress.
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> The Government document, a book of 710 pages, is the record of hearings last June before a House of Representatives subcommittee. What the committeemen heard was not reassuring. Individualistic scientists, said witness after witness, cannot be regimented and still work at their best. When they are put under military command, as in the many laboratories of the armed services, they feel that they are misunderstood and their capabilities wasted. Said William Webster, executive vice president of the New England Electric System, twelve years a naval officer: "A military organization is a very trying climate for the best work of scientists."
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> The most violent opinion was expressed by John William Marchetti, who resigned last May as electronics director of the Cambridge Air Force Research Center after a row with a new commanding officer. Said Marchetti: "We got decisions that were stupid, just plain stupid, and some that were intolerable." He did not blame the military men for all the friction: "It is one clique pitted against another. . . . 'It is said of a well-known Air Force research and development center that at the officers' club the relative ranks are officers, enlisted men, dogs and civilians.' "
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> Calmer witnesses testified that much of the trouble comes from the military habit of rapidly "rotating" the commanding officers of a laboratory. Sometimes these birds of passage stay a year or two, learning almost nothing about the complicated work that they are supposed to supervise.
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> Many of the witnesses ducked the dangerous problem of security. But a few eminent ones pulled no punches. President James R. Killian Jr. of Massachusetts Institute of Technology deplored "what sometimes seems to be a preoccupation with security procedures and policies at the expense of scientific progress. . . . There has been, unhappily, a deterioration in recent months in the relationship between Government and science. . . . Members of the scientific community are clearly discouraged and apprehensive. . . ."
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> Said Mathematician John von Neumann of the Princeton Institute for Advanced Study, who last week was appointed to the Atomic Energy Commission . . .: "Very many people who have some trivial blot way back in their past do not know whether they can take a chance on getting into sensitive work. . . . To have once been dropped for security reasons is for the average person . . . a professional catastrophe."
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> Most vehement about the capricious operation of the security system was Dr. Vannevar Bush, President of the Carnegie Institution and wartime chief of the Office of Scientific Research and Development. "I feel," said Bush, "that the way in which our security system is working at the present time is driving a wedge between the military and the scientific people of the country, and is doing great harm. . . . The whole air of suspicion is just not such as to produce . . . the kind of . . . collaboration between the military men and the scientific community that we very much need. . . ."
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> To the worried scientists, the *Christian Century* offered its sympathy. "The unhappiness of our American scientists is increasing as they perceive how exposed is the position of one who is, in the last analysis, a tool of the Government. It may be necessary for scientists . . . to live under the eye of the FBI, but it is not pleasant.
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> "Our public has been taught to think of him [the scientist] as a mental colossus and a moral paragon —austere, dedicated and all but beyond human vanities in his pursuit of the truth. . . . To this assumption of the scientist's moral superiority there has suddenly been added the social pre-eminence a society accords its workers of magic.
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> "Under such conditions one might expect the scientist to be the most secure man in our society. He holds almost ultimate power—the power of life or death. But many an American scientist is . . . in moral torment. He has watched his science move from theory to human holocaust. . . .
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> "Again many an American scientist is troubled because he finds himself dragged willy-nilly into a partisan conflict. . . . The scientist discovers that he is no longer the austere and impartial figure of popular legend and his own desires. Instead he is a partisan in a relentless battle for power. . . . The scientist who is engaged in atomic research for the Government has no stomach for such power struggles —but he cannot avoid becoming involved in them. . . . To protect his sanity he disavows moral responsibility for the consequences of his work. But does he convince himself?"

In a letter about **Nicolai Lunin** received recently by Clive McCay of Cornell University Agricultural Experiment Station, H. E. Voss of Mannheim-Waldhof Germany, writes:

> . . . In your article ["Gustav B. von Bunge," *J. Nutrition* 49, 1 (1953)] you cite on page 7 the thesis of Lunin, who, as you say, "disappears from the scientific stage after this one brillant appearance." It may be of interest for you that I have known Dr. Nicolai Lunin very well: he was a famous otolaryngologist at St. Petersburg and director of a clinic for this speciality till 1918, when he was replaced by a communist doctor on the order of the bolshevist government. As far as I know, he died at St. Petersburg in the year 1925 or 1926. He was married with the daughter of Gerta of the great botanist and mem-

ber of the Imperial Russian Academy of Sciences Maximowicz. The last years of his life he lived in very poor conditions at St. Petersburg. He was an excellent doctor, a great sportsman and hunter and a fine and generous man. Requiescat in pace! . . .

McCay had said in his paper that Von Bunge's interest in the composition of milk led to the attempts of his student, Lunin, to maintain mice with synthetic milk. The results of these studies appeared in Lunin's thesis in *Z. Physiol. Chem.* (1881), and through this work Von Bunge was convinced that milk contained organic essentials that the animal body could not make.

At a recent meeting of the American Bankers Association, Gwilym A. Price, president of the Westinghouse Electric Corp., said that **atomic power** is not going to upset the economics of the nation's electric utility industry. He cited three reasons why utilities need not worry about their investment in turbines, generators, transformers and other conventional equipment.

> In the first place, atomic power plants will use much the same equipment and facilities as coal-fired steam plants . . . the 'uranium boiler' will simply take the place of the coal boiler. The generators and transformers will be of the same types. The turbines may be essentially the same as those now being used.
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> In the second place, the demands for electric power . . . will be so stupendous that every resource that is practical and available will be needed and used. Atomic power will enter the picture as another major source of energy, not as a replacement but as an essential supplement.

The third reason Price gave for anticipating the orderly approach to atomic power is that its widespread and extensive use for civilian purposes "is still some years away."

One of the most comprehensive surveys ever made of the health conditions of Arizona's Indians is published in the second annual report of the University of Arizona Bureau of Ethnic Research under the title, "**Indian health in Arizona.**" Prepared at the request of the Phoenix Area Office of the Bureau of Indian Affairs, the report was written by Bertram S. Kraus, university anthropologist. It covers approximately 26,540 Arizona Indians, including Papagos, Pimas, Colorado River Indians, Truxton Canyon Indians, and two Apache tribes. Some of the major findings of the survey are as follows:

1) Indians are less apt than whites to suffer from "constitutional" diseases such as cancer, allergies, metabolic and endocrine diseases, diseases of the circulatory and genitourinary systems, complications of pregnancy, and mental disorders.

2) Despite unhygienic living conditions, the survey produced the unanticipated finding that "environmental" diseases—infective, parasitic, respiratory, digestive, and nervous—show no higher frequency among Indians than whites.

3) When disease does strike, however, it produces a higher death toll among Indians than whites. This is due in large part to the fact that diseases remain undetected and untreated for a longer period among Indians. Indians live with their symptoms longer before seeking medical care, and hospitals and clinics are easily accessible only to villages in their immediate area. Indian cultural factors often cause reluctance to accept the white man's medicine.

4) The worst phase of the Indian health picture is the infant mortality rate which is at least three or four times greater than that of whites in Arizona. The biological process of the "survival of the fittest" is still the rule among the primitive Indian population. Only genetically sound individuals survive and propagate, which probably contributes to the favorable statistics in respect to the incidence of constitutional and environmental diseases. An improvement in living standards and a reduction of infant mortality might soon elevate the Indian health picture above the general U.S. level.

5) Arizona's Indian population is increasing steadily at a rate of 1 to 2 percent a year as a result of a birth rate that is considerably higher than the average for U.S. whites.

The Western Hemisphere is the part of the world in which **human population** is increasing most rapidly. Despite the general belief that Asia's population is growing fastest, United Nations experts who reported to the recent World Population Conference in Rome estimate that the 1.0 percent annual rate of increase on that continent is the lowest in the world. For the Americas, the estimate was 1.8 percent, with Latin America 2.2 percent, the latter a rate more than double that of Asia.

The population of Asia, however, probably will be between 1816 million and 2227 million by 1980, an increase of from 496 to 907 million, whereas the Americas will grow by 157 to 247 million to a total population of from 487 to 577 million.

Asian population, despite the fact that it is growing at a rate that is only a little more than one-half that of the Americas, is increasing far more rapidly because it starts with such a large population.

The U.N. demographers believe that the world population will jump from 2454 million in 1950 to a population in 1980 of between 3295 and 3990 million.

The first nests and the first egg of Trinidad's **Black-winged Bellbird** have been discovered in Trinidad. Named 137 yr ago by Georges Cuvier, French naturalist of the 18th and 19th centuries, the "bird with the fleshy beard"—so described because of the string-like outgrowths hanging from its throat—has managed to hide its nest, eggs, and mating habits all this time. Willam Beebe, director emeritus of the department of tropical research of the New York Zoological Society, found the first nest; 53 days later, Wilbur G. Downs, director of the Trinidad Regional Virus Laboratory, discovered a second nest and also the first egg.

Scientists in the News

President Eisenhower has named **John von Neumann,** research professor in mathematics at the Institute for Advanced Study at Princeton, N.J., to the Atomic Energy Commission. Von Neumann, whose work with a high-speed electronic calculator is credited with speeding the development of the hydrogen bomb, succeeds Eugene M. Zuckert, who resigned last June. The 5-yr appointment must be confirmed by the Senate. Von Neumann is a friend and associate of J. Robert Oppenheimer, whom he first met in Germany in 1926. When he testified at Oppenheimer's recent security hearings, Von Neumann said that he had no doubt concerning Oppenheimer's loyalty and that he did not consider him a security risk.

Von Neumann took issue, however, with the recent assertion of Vannevar Bush, president of the Carnegie Institution, that the wartime partnership between the military and science has been "almost destroyed" by the security program. "If anything, it is better," Von Neumann said of relations between the armed services and the scientific community. On 26 Oct. the *Washington Post-Times Herald* stated editorially:

> The President has chosen . . . a man of dazzling scientific brilliance and of great intellectual fertility. Dr. John von Neumann ranks unquestionably among the half dozen leading theoretical mathematicians in the world today. . . .
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> Although Dr. von Neumann has kept himself in the main quite clear of political controversy, he was one of the important witnesses in the Oppenheimer case. His testimony there in behalf of Dr. Oppenheimer reflected an independence and integrity which bespeak additional fitness for membership on the AEC. . . . Von Neumann has suggested judicial procedures for security cases, expressing a thoughtful concern for individual rights. Probably the President chose him for the AEC post in part with the hope that his appointment would be reassuring to the disillusioned and dismayed scientific community. . . . It is an exemplary appointment in every respect.

To fill Von Neumann's place on the AEC General Advisory Committee, the President has appointed **Edwin Mattison McMillan,** physics professor at the University of California. He also named to this committee **Warren Charles Johnson,** chairman of the chemistry department at the University of Chicago, and **Jesse Wakefield Beams,** professor of physics at the University of Virginia. These committee assignments are not subject to Senate confirmation; the terms expire 1 Aug. 1960.

Harold Mazza, research process engineer for the American Potash and Chemical Corp. at its main plant at Trona, Calif., has been appointed assistant director of research for the company. He joined the firm in 1929 as a sampler in the control laboratory.

Hans B. Jonassen, professor of chemistry at Tulane University who has made contributions in the fields of drugs, foods, dyestuffs, agriculture, and petroleum through his researches on complex ions, has received the 1954 Southern Chemist award of the American Chemical Society's Memphis Section. The gold medal is given annually for distinguished service to chemistry in the Southern states.

Norman R. Davidson, associate professor of chemistry at California Institute of Technology, has received the 1954 California Section award of the American Chemical Society. He was honored for his development of techniques for measuring the speed of very fast chemical processes such as those that take place in high explosives and rocket propellants.

After a 2 yr leave of absence, **William Walter Greulich** has returned to his post at Stanford University, where he is professor and executive head of the department of anatomy in the School of Medicine. As a reserve officer in the foreign service, he has been serving as science adviser to the U.S. High Commissioner for Germany and as chairman of the Fulbright Commission in that country.

Fred L. Soper, director of the Pan American Sanitary Bureau, Regional Office of the World Health Organization, was reelected director for a third 4-yr term at the 14th Pan American Sanitary Conference that took place recently in Santiago, Chile.

Cornell University has announced that **Chandler Morse** of the economics department has been named director of the university's Social Science Research Center. He succeeds **Robin M. Williams, Jr.,** professor of sociology, who will spend the next academic year at the University of Oslo on a Fulbright grant.

Werner Heisenberg, 1932 Nobel prize winner in physics and head of the Max Planck Institute for Physics in Berlin, recently lectured on the multiple production of mesons at New York University's College of Engineering.

The Bonn government has appointed Heisenberg to survey the establishment of a nonmilitary atomic research center that is scheduled to go into operation after it is approved by the Allied High Commission.

Linus Pauling, chairman of the division of chemistry and chemical engineering at the California Institute of Technology, has won the 1954 Nobel prize for chemistry. He is the discoverer of the fundamental principles determining the nature of chemical bond and the structure of molecules, particularly of protein molecules. Because of charges made against him before a Senate investigating committee, the State Department in 1952 refused Pauling a passport to attend a chemical society meeting in London on the grounds that his participation was "not in the best interests of the United States." The refusal was withdrawn subsequently, and Pauling lectured in Europe.

The physics prize has been awarded to two German scientists, **Max Born** of Bad Pyrmont, Hanover, who until recently held a chair in mathematical physics at Edinburgh University, and **Walther Bothe,** since 1934

head of the Institute for Physics of the Max Planck Institute for Medical Research in Heidelberg. Born was honored "for his fundamental research in quantum mechanics, especially for his statistical interpretation of the wave function." Bothe won recognition for his coincidence method for measuring with extreme accuracy time-intervals in atomic processes.

John F. Enders of Harvard University, a recipient of the 1954 Nobel prize [*Science* **120**, 747 (5 Nov. 1954)] and of the annual Albert Lasker award, will present the 4th R. E. Dyer lecture at 8 P.M., 17 Nov., in the Clinical Center of the National Institutes of Health, Bethesda, Md. His subject will be "Recent observations on the behavior in tissue culture of certain viruses pathogenic for man." A cordial invitation is extended to the scientific public.

Meetings

The 3rd annual **Wire and Cable Symposium,** jointly sponsored by the Army Signal Corps Engineering Laboratories, Fort Monmouth, N.J., and by the wire and cable industry, will be held 7–9 Dec. at the Berkeley-Carteret Hotel, Asbury Park, N.J. Persons interested in communications and in wire and cable problems who wish to attend the symposium may obtain further details from H. L. Kitts, Coles Signal Laboratory, Fort Monmouth, N.J.

The second annual **symposium on antibiotics,** sponsored by the Food and Drug Administration, U.S. Department of Health, Education, and Welfare, in collaboration with the journal, *Antibiotics and Chemotherapy,* took place 25–29 Oct. 1954, in Washington. Under the chairmanship of Henry Welch, director of the division of antibiotics, Food and Drug Administration, advances in the field of antibiotics were reported by 172 speakers, including several from abroad. Ministers of health or their representatives from 31 foreign countries were invited to attend.

Guest speakers on the opening day included Selman A. Waksman, Nobel prize laureate and discoverer of streptomycin, Felix Marti-Ibanez, former Under Secretary of Health of Spain, and Maxwell Finland and Theodore Woodward, two leading scientists in the field of antibiotics. One day was devoted to the newest of the broad spectrum antibiotics, tetracycline, and another to new antibiotics, some of which were described as having antitumor and anticarcinogenic activity.

The **Society for Industrial and Applied Mathematics** will hold its first national meeting in conjunction with the annual meetings of the American Mathematical Society, the Mathematical Association of America, and the Association for Symbolic Logic at the University of Pittsburgh, 27–29 Dec. The following addresses will be presented to an evening meeting: "The history of a problem," Brockway McMillan, Bell Telephone Laboratories; "Control of industrial operations," Herbert A. Simon, Carnegie Institute of Technology; "Probability theory in liability and property insurance," C. W. Crouse, Actuary, Preslan and Co. Further information may be obtained from H. W. Kuhn, Dalton Hall, Bryn Mawr College, Bryn Mawr, Pa.

The 2nd annual congress of the **Interamerican Society of Psychology** will be held at University City, Mexico, 14–19 Dec. The central theme will be *Psychology of Education,* from the aspects of applied psychology, psychotherapy, social anthropology, and teaching. A limited number of guest accommodations will be available at the National University of Mexico; a larger number will be available at nearby hotels. However, since the demand for accommodations is sure to exceed the supply, interested persons are urged to apply immediately for membership in the congress. A curriculum vitae in triplicate should be sent to the general secretary, Werner Wolff, Bard College, Annandale-on-Hudson, N.Y.

Education

H. D. Bruner, professor of physiology at Emory University, will join Marcelo Alonso, professor of physics at the University of Havana, and Ovidio de Laosa, director of the Radioisotopes Laboratory at Curie Hospital, in presenting a course on the **uses of radioisotopes** to 24 scientists from Latin American countries. The course, under the sponsorship of UNESCO, will be held during December at the **University of Havana.**

Reed College of Portland, Ore., has entered a cooperative "3–2 plan" with **California Institute of Technology** in which students from Reed will be admitted to the institute as juniors after 3 yr of study in a special program. After the student successfully completes 2 yr at the institute, he will be awarded the bachelor of arts degree by Reed and the bachelor of science degree by the institute.

Four liberal arts colleges are now cooperating with Caltech in this plan—Reed, Occidental, Pomona, and Whitman. The plan may be extended to other schools.

West Virginia University has announced that excavation is now underway for the construction of the Basic Sciences Building of the new University Medical Center in Morgantown. The building will contain more than 1000 rooms and will provide quarters for instruction in the preclinical years in medicine, nursing, and medical technology, as well as facilities for dentistry and pharmacy.

The new medical center will be located on a 145-acre tract within the city limits of Morgantown and approximately 2 mi from the main campus. Essentially complete is the $1,070,719 mechanical plant which will supply heat, power, and other services. The teaching hospital, which will contain 400 beds initially and will be joined to the Basic Sciences Building, is in the planning stages now.

Available Fellowships and Awards

The **School of Mathematics of the Institute for Advanced Study,** Princeton, N.J., will allocate a small number of grants-in-aid to gifted young mathematicians and mathematical physicists to enable them to study and to conduct research at Princeton during the academic year 1955–56. Candidates must present evidence of research ability comparable at least with that expected for the Ph.D. degree. Application blanks may be obtained from the School of Mathematics. *They must be returned by 1 Jan. 1955.*

Applications for grants for scholars in cancer research are being accepted by the Committee on Growth of the National Research Council, acting for the **American Cancer Society.** These awards are designed to bridge the gap between the completion of fellowship training and the period when the young scientist has thoroughly demonstrated his competence as an independent investigator. A grant of $18,000, payable over 3 yr, will be made to each scholar's institution as a contribution toward his support, his research, or both. Each institution may submit more than one application. *The deadline is 1 Jan. 1955.* These grants are not restricted to the support of individuals who have held American Cancer Society fellowships. Application blanks and additional information may be obtained from the Executive Secretary, Committee on Growth, National Research Council, 2101 Constitution Ave. NW, Washington 25, D.C.

The **Social Science Research Council** has announced the fellowships, grants-in-aid, and other appointments that it is supporting in 1955. Most of the awards are offered at only one stated time during the year, and closing dates vary, beginning in Jan. 1955. Preliminary inquiries and requests for application forms, indicating age, place of permanent residence, academic status, vocational aims, the nature of the proposed training or research, and the type of assistance desired, should be made as early as possible, so that there may be ample time for careful consideration in advance of formal action. All communications should be addressed to The Social Science Research Council, 726 Jackson Place N.W., Washington 6, D.C.

In the Laboratories

The **Armour Research Foundation** of the Illinois Institute of Technology, Chicago, has announced plans for what is said to be the first nuclear reactor for industrial research. The reactor, or atomic pile, will cost about $500,000. The foundation will assume about one-third of the investment, and industries in the Chicago area are being invited to participate with subscriptions of $20,000 each.

The proposed facility with a power equivalent to 50,000 w will be a highly flexible neutron and gamma source and is not intended for research on reactors themselves or for the generation of electrical power. Rather, it will be designed for investigations into such fields as sterilization of foods and drugs; high polymer studies of the structure of plastics, rubber, and other materials; development of metals and alloys; and medical techniques. The reactor will be housed in a new 8000-ft^2 building on the institute's campus. Plans are being submitted to the Atomic Energy Commission.

The **Trudeau Sanatorium** will close its patient-care facilities on 1 Dec. Founded in 1884 as the Adirondack Cottage Sanatorium by Edward Livingston Trudeau, who himself had tuberclosis, the Trudeau Sanatorium, renamed upon his death in 1915, is the nation's oldest private institution for the treatment of this disease. The Trudeau-Saranac Institute, which has operated the sanatorium, will continue and will increase its research activities in tuberculosis and other chest diseases, particularly those of industrial origin such as silicosis, asbestosis, beryllium poisoning, and lung cancer.

The decision to close the institution, which has given care to more than 12,000 patients, has a significance for the Saranac Lake community beyond the effect on its economic future. Nearly one-third, and at one time one-half, of the 6700 residents originally settled in the area because of personal health problems, primarily tuberculosis. Once having "taken the cure" successfully, they built their lives and their community around this disease.

A special committee has been appointed to study the possibilities of using the sanatorium's facilities, consisting of over 50 buildngs on a 100-acre plot, for other health purposes.

A new $1,500,000 sound laboratory having one of the largest known anechoic chambers was officially dedicated in October by the **General Electric Co.'s** power transformer department at Pittsfield, Mass. With the new facility, G.E. hopes to eliminate the problem of transformer noise. Transformers rated 500,000 kva or higher can be tested in this laboratory. The anechoic chamber, which is about as high as a four-story building, was built for a 30 to 40 db ambient sound level; tests have shown the sound level in the chamber to be less than 20 db.

The **Westinghouse Electric Corp.,** Pittsburgh, has announced the formation of a new products engineering department to be headed by W. H. Brandt. Work of the new department will be closely coordinated with that of the research laboratories and the materials engineering department.

General Motors Research Laboratories has announced plans to use radioactive isotopes in peacetime engineering and research studies. The program will include construction of a new laboratory at the General Motors Technical Center north of Detroit. Work will be confined to isotope research, the so-called tracer studies—not research in nuclear physics or engineering of atomic piles for power.