News and Notes

About People

Amedeo S. Marrazzi, head of the Department of Pharmacology and Therapeutics, Wayne University College of Medicine, has been given an additional grant of $2,500 by the Smith, Kline and French Laboratories to continue his studies by electrical methods of drugs acting on the autonomic and central nervous systems.

Richard S. Burington, director of the Evaluation and Analysis Groups, Research and Development Division, Bureau of Ordnance, Navy Department, Washington, D. C., has been named chief mathematician, Bureau of Ordnance.

David L. Arm became dean of the School of Engineering, University of Delaware, on 1 July. He comes from Iowa State College, where he was head of the Mechanical Engineering Department, as well as director of the Navy's Diesel Engine School for the past several years.

Oscar Riddle, formerly staff member of Carnegie Institution's Department of Genetics and for the past nine months a visiting professor to five South American republics under the auspices of the Department of State, has returned to this country and is residing in Plant City, Florida.

Lt. Col. Hubert G. Schenck, Corps of Engineers, AUS, has received the Legion of Merit for his work as chief of the Natural Resources Section, General Headquarters, Supreme Commander for the Allied Powers, in Japan.

George B. MacWood has resumed his teaching in the Chemistry Department, The Ohio State University, with advancement to the rank of associate professor, after being on leave at the Radiation Laboratory, University of California, during the war. Two new assistant professors, Thor Rubin and Harry H. Sisler, were recently appointed for work in general chemistry.

Ernest Sachs, a member of the faculty of Washington University School of Medicine, St. Louis, for 35 years, has retired as professor of neurological surgery to become professor emeritus. He will continue his work at Barnes and Children's Hospitals and will also continue to train graduate students in neurological surgery.

Arthur E. Ruark has resigned as head of the Department of Physics, University of North Carolina, to join the staff of the Applied Physics Laboratory, The Johns Hopkins Hospital.

Paul Buchner, formerly of the University of Leipzig and authority on cellular symbiosis, has been living with his family on the island of Ischia since before the invasion of Italy. Prof. Buchner's wife and son are Italian citizens. Since the departure of the English Army from the island the entire family has been without both work and income and is now existing near starvation level. Although Prof. Buchner could not do any zoological work during the war years, he continued his prehistoric and archeological survey of the island, and with the help of the English has founded a small museum built around his material. He is now in danger of being evicted from his house as an alien. Since he cannot return to Germany and cannot work in Italy, his plight is extreme. His address is Porto d'Ischia, Via San Alessandro, Italy.—*Richard B. Goldschmidt* (University of California).

Thomas H. Bissonnette, Trinity College, Hartford, Connecticut, has recently been awarded the Walker Grand Honorary Prize of $1,000 by the Boston Society of Natural History for his work on photoperiodism. This prize was established in 1864 by William J. Walker, a physician of Boston and Newport and one of the eminent early members of the Society. It is given once every five years for a scientific investigation or discovery of extraordinary merit in the field of natural history.

Samuel Lenher, of the Chambers Works of the Du Pont Company, Deepwater Point, New Jersey, has been appointed director of manufacture for the dyestuffs division of the Company, with headquarters in Wilmington. Dr. Lenher will assume this newly-created position in the Organic Chemicals Department on 1 October.

Walther Arndt, curator, Zoological Museum, Berlin, was sentenced by the Nazi "People's Court" and executed on 26 June 1944, according to news received by Ernst Schwarz, U. S. National Museum, from Ernst Matthes, professor of zoology, University of Coimbra, Portugal. There was no racial bias against him but, according to Dr. Matthes, "he had the courage not to conceal his disagreement with the Nazi way of thinking."

Dugald Brown, acting dean of New York University's Dental College for the last two years, was appointed director of the Bermuda Biological Station on 13 July. The research staff, in addition to its director and Hilary Moore, resident naturalist, will consist of visiting investigators working on grants from univer-

sities and foundations or on fellowships provided by the Biological Station.

Icie Macy Hoobler, director of the research laboratory of the Children's Fund of Michigan, spoke on the "Romance of Research" at a dinner on 11 September before receiving the Francis P. Garvan medal honoring women in chemistry. Dr. Hoobler pointed out that nutritional deficiencies directly or indirectly disqualified about one man in seven. She regretted that the calamity of war was necessary to bring this matter to the attention of the general public.

Jose R. do Valle, professor of pharmacology at the Instituto Butantan, São Paulo, Brazil, has been awarded a Guggenheim traveling fellowship for study in leading pharmacological laboratories in the United States. After several months in the laboratories of the University of Texas Medical Branch, Galveston, Dr. do Valle is visiting the laboratories of Herbert M. Evans and Hamilton H. Anderson, of the University of California Medical Center, and will later work with E. M. K. Geiling, of the University of Chicago. While at Galveston, Dr. do Valle worked with C. M. Pomerat in the Tissue Culture Laboratory and with George Emerson and Paul Ewing in the Pharmacology Laboratory.

Albert P. Doerschuk, recently returned from two years Army service, is the recipient of a junior research fellowship, established by the Corn Products Refining Company in the Department of Chemistry, University of Pittsburgh.

Leroy E. Loemker, head of the Department of Philosophy, Emory University, has been named dean of the Emory Graduate School. Dr. Loemker assumed his new duties on 1 September, succeeding J. Harris Purks, dean of the College of Arts and Sciences, who has filled the position in an acting capacity for several years.

Clarence E. de la Chapelle, assistant dean and director of the Postgraduate Division of New York University College of Medicine, has been appointed associate dean of the College.

William S. Carlson assumed the presidency of the University of Delaware on 1 July. Before going to Delaware, Dr. Carlson was dean of records and professor at the University of Minnesota. He is the author of *Greenland lies north,* based on his experiences in the Arctic.

Announcements

Chromosoma and *Zeitschrift für Zellforschung und mikroskopische Anatomie,* two biological publications of an international scope, will resume publication. The two journals, the former devoted to cytogenetics, will be published again by Springer, but will now be issued from Vienna instead of Berlin as before the war. All manuscripts should be sent to Prof. J. Seiler, Zoological Institute, Eidg. Technische Hochschule, Zürich, Switzerland.

The physical chemistry of drug action will be studied in a new research project established at Northwestern University, according to R. K. Summerbell, chairman of the Department of Chemistry. Under the direction of Irving M. Klotz, the study will consist of the structural and environmental factors which influence the combination of enzymes and proteins with drug molecules. The project has been made possible through a contract with the Office of Research and Inventions of the Navy Department and will extend over a period of two years.

A 300-pound glass telescope prism will be installed in the world's largest Schmidt-type telescope at the Observatorio Astrofisico Nacional, Tonanzintla, Puebla, Mexico. This prism, the largest yet made, will be used for auxiliary equipment to photograph stellar spectra more than 100,000 times fainter than the faintest star visible to the naked eye. The prism was ground and polished by the Perkin-Elmer Corporation, Glenbrook, Connecticut, from a 379-pound optical glass molded at the Bausch and Lomb Optical Company, Rochester, New York, and exceeds by three inches the next largest one of its kind at the Case School of Applied Science, Cleveland.—*Science Service.*

The School of Mathematics, Institute for Advanced Study, is planning to allocate a small number of stipends to persons having a background in mathematics and mathematical physics to enable them to study and to do research work at Princeton University during the academic year 1947–48. Candidates must have given evidence of ability in research comparable at least with that expected for the Ph.D. degree. Blanks for application may be obtained from the School of Mathematics, Institute for Advanced Study, Princeton, New Jersey, and are returnable by 1 February 1947.

The Pabst Brewing Company has announced an expanded program of research under the direction of Alexander Frieden. A three-story research building is now under construction at Milwaukee. The first floor is to house offices and pilot plant; the second, the Theoretical Laboratories; and the third, the Applied Laboratories. There will be enlargement and expansion of the work of the present groups, consisting of the Bacteriological Laboratory, headed by J. C. Hoogerheide; the Biochemical Laboratory, headed

by Harold Levine; the Physical Chemistry Laboratory, headed by W. D. Claus; the Organic Chemistry Laboratory, headed by S. A. Morell; and the Chemical Engineering Laboratory, headed by P. Deren. Also, a new laboratory on fundamental studies of flours and starches is under consideration. The Applied Laboratories will contain units on textiles, paper, adhesives, and food and will work on the application of the products the Company is now manufacturing as well as those it develops for textile and paper mills, for the manufacture of adhesives, and in the food industry.

A Department of Illustration will open at Washington University School of Medicine, St. Louis, this fall under the direction of K. Gramer Lewis, a professional photographer formerly with the Photographic Department at the State University of Iowa. The new Department will offer a complete medical photographic service, including clinical photography, photomicrography, and motion pictures.

The first postwar meeting of Southwestern archeologists was held on 20–22 August in Santa Fe, New Mexico, under the chairmanship of E. W. Haury, of the University of Arizona. The sessions, held at the Laboratory of Anthropology, were attended by 45 anthropologists representing 14 institutions. A summary of the meeting is to appear in *American Antiquity,* and a more extended report in *El Palacio,* organ of the Museum of New Mexico, Santa Fe.

A program for peacetime scientific training of Quartermaster Corps reserve officers was inaugurated in Chicago by the Quartermaster Food and Container Institute in July, when 25 young men began a three-year program of graduate study in scientific fields at the University of Chicago, Iowa State College, and Northwestern University, under the auspices of The Quartermaster General, U. S. Army. Col. Charles S. Lawrence, commanding officer of the Institute, located at 1849 West Pershing Road, Chicago, is responsible for the correlation of the students' work at the universities with the Army's program of research and study. The Institute, which collaborated with colleges and industry during the war on the development of all special food requirements for the armed forces, expects to continue such collaboration.

This is a plan on the part of the Army to assist in the education of a group of scientists who will be available to industry upon completion of the course so that the problems of food and packaging research of the armed forces can be more closely identified with industry. It will combine graduate study at one of the three universities with actual laboratory work at the Institute on special projects, assigned in connection with food and container research.

The majority of the men, selected jointly by the staffs of the Institute and the universities, are returned veterans of World War II. All have been commissioned reserve officers in the Quartermaster Corps, regardless of the branch in which they saw active service during the war, and while on duty will receive the full pay and allowances of their respective ranks. In addition, all tuition, equipment, and laboratory fees will be paid by the War Department. Those selected bring to the Army a valuable and varied educational background of undergraduate and graduate study at 30 different universities in the fields of mathematics, psychology, bacteriology, economics, biology, physics, chemistry, nutrition, agricultural economics, and physiology. Successful completion of the course of study may not only result in a Master's degree but may lead to a doctorate. Upon finishing the course, they will revert to civilian status and can be called to active duty only for a national emergency.

A new organization for research in gastroenterology and internal medicine has been worked out jointly by the Samuel S. Fels Fund Medical Research Laboratory and Temple University School of Medicine. The Fels Research Laboratory will henceforth be known as the Fels Research Institute of Temple University School of Medicine and will be located in the Medical School laboratory building at Broad and Ontario Streets. According to the agreement approved by the representatives of the agencies, the Samuel S. Fels Fund will furnish the laboratory equipment and will finance the research program covering staff salaries and the Institute's operating expenses. The management committee of the Institute will consist of an equal number of members appointed by the cooperating groups. The Temple University members will include Robert L. Johnson, president of the University; William N. Parkinson, dean of the School of Medicine; Charles L. Brown, head of the Department of Medicine; and Robert L. Hamilton, chairman of the Medical School Committee on Research. The Fels members are to be designated by their board.

Harry Shay, who has been in charge of the Fels Research Laboratory since its establishment in 1934, will continue as director of the new Institute. The culmination of the plan just accepted has been made possible by Samuel S. Fels, manufacturer, who is well known for his deep interest in science.

The American Standards Association has released a catalogue of 845 standards including definitions of technical terms, specifications for metals and other materials, dimensions, safety provisions for the use of machinery, methods of work, and methods of test for the finished product. The 154 American War Standards listed on pages 15 and 16 of the booklet are now being reconsidered for their possible value as American Standards in connection with peacetime

production. The catalogue will be sent free of charge to anyone interested. Requests should be addressed to the American Standards Association, 70 East 45th Street, New York 17, New York.

The Eli Lilly and Company Award in Bacteriology and Immunology, amounting to $1,000 and a medal, was presented to Maclyn McCarty, Rockefeller Institute for Medical Research, at the 46th general meeting of the Society of American Bacteriologists held recently in Detroit. This was the ninth award of this recognition, which is governed by joint committees of the American Association of Immunologists, the American Society for Experimental Pathology, and the Society of American Bacteriologists. Previous recipients have been Harry Eagle, Frank L. Horsfall, Jr., Jerome T. Syverton, John G. Kidd, Dilworth W. Wooley, Alwin M. Pappenheimer, Harlan G. Wood, and Esmond E. Snell. At the same meeting Dr. McCarty spoke on "Chemical Nature and Biological Specificity of the Substance Inducing Transformation of Pneumococcal Types."

I. G. Farben research in acetylene chemistry will be investigated and evaluated by a team of scientists, according to an announcement by the Chemicals Unit of the Technical Industrial Intelligence Branch, Department of Commerce. Among the German cartel's new developments which have aroused the active interest of American industry are plastics, drugs, pharmaceuticals, surface active agents, adhesives, synthetic detergents, and gums. Costs will be shared by the companies with which the investigators are affiliated. The findings will be made public through the Office of the Publication Board, Department of Commerce.

Two members of the team, Horace M. Weir and D. L. Fuller, both of the General Aniline and Film Corporation, left for Germany at the end of June. While in Germany, Dr. Weir was also to study the Linde-Frankl oxygen process for Hydrocarbon Research, Inc., New York City.

The following members left during July: A. O. Zoss, General Aniline and Film Corporation, Easton, Pennsylvania; G. B. Carpenter, Air Reduction Company, Stamford, Connecticut; and Karl Kammermeyer, Publicker Industries, Inc., Philadelphia.

Two members of the team, Edward N. Rosenquist and Wayne E. Alexander, both with the Monsanto Chemical Company, St. Louis, were already at work in Germany when the others arrived.

The Department of Physics, University of California, Berkeley, announces the following appointments for 1946–47: Wilson Powell, associate professor; Wolfgang Panofsky, assistant professor; William B. Fretter, instructor; and H. R. Snodgrass, associate. In addition to these men, L. W. Alvarez, E. M. McMillan, and J. R. Oppenheimer are now resuming their teaching duties after extended leave of absence for war work, restoring the entire prewar permanent staff of the Department.

Princeton University began celebration of its bicentennial on Monday, 23 September. In all, 15 conferences are scheduled throughout the academic year, and the event will be culminated on 14 June 1947, when President Truman will speak at the commencement exercises. The titles and dates of the conferences, of which there are to be two series, follow: "The Future of Nuclear Science," 23–25 September; "The Chemistry and Physiology of Growth," 27–30 September; "Engineering and Human Affairs," 2–4 October; "The Evolution of Social Institutions in America," 7–9 October; "The Development of International Society," 11–14 October; "The Humanistic Tradition in the Century Ahead," 16–18 October; "University Education and Public Service," 13–14 November; "The Problems of Mathematics," 17–19 December; "Genetics, Paleontology and Evolution," 2–4 January 1947; "The University and Its World Responsibilities," 19–21 February; "Planning Man's Physical Environment," 5–6 March; "Near Eastern Culture and Society," 25–27 March; "Far Eastern Culture and Society," 1–3 April; "Research and Scholarship in the Arts," 22–24 April; and "Secondary School Education," 14–15 May.

The planners of the conferences are limiting themselves to the lecture form of presentation. They have arranged that much of the time be spent in discussions from the floor of the conferences by others, competent in the various fields.

From 23–25 September addresses were given by Niels Bohr, P. A. M. Dirac, Hugh S. Taylor, Enrico Fermi, Albert Einstein, H. C. Urey, James B. Conant, and P. M. S. Blackett.

The conference beginning on 27 September will be devoted to "The Chemistry and Physiology of Growth." Those participating will be: John H. Northrup, C. B. Van Neil, Herbert Evans, C. P. Rhoads, Karl Folkers, and H. Holter.

The third conference, beginning 2 October, will be entitled "Engineering and Human Affairs." Speakers will include Joseph E. Pogue, Charles M. Stine, Sir Harold Hartley, David Sarnoff, Karl Compton, Zay Jeffries, Robert Wilson, and Vice-Adm. Ben Morrell.

The Committee on Research in Comparative Physiology Under Natural Conditions (see *Science,* 1946, **104**, 110) has been announced as follows: Laurence Irving (chairman), W. H. Forbes, F. E. J. Fry, G. E. Hutchinson, Ancel Keys, A. C. Redfield, and D. R. Griffin (secretary). Dr. Griffin may be addressed at

the Department of Zoology, Cornell University, Ithaca, New York.

The Committee will review and approve programs of research and refer them to interested government agencies and international organizations. A symposium on methods and results of physiological field work will be held during the spring of 1947. In addition, the Committee hopes to establish fellowships, grants, and eventually a central laboratory devoted to the development of methods and the training of personnel for field work of a physiological nature.

Speaking at the 25th anniversary of the Petroleum Division of the American Chemical Society in Chicago on 10 September, Bruce K. Brown, of the Standard Oil Company of Indiana, predicted a new peak in the use of petroleum in the next quarter of a century even though the use of the nuclear pile for the production of power becomes common. Dr. Brown said that there is no danger of an oil famine during this period because the United States still has proven oil reserves in excess of 20,000,000,000 barrels, and that the reserves of natural gas are seven times greater than they were 25 years ago. Liquid fuel can be made from gas as well as from coal and shale. Dr. Brown went on to point out: "If we were to draw from only one-third of our present known gas reserves at the rate of 4 per cent per annum, we could produce 500,000 barrels a day of gasoline by variations of the Fischer-Tropsch process. Natural gas is the cheapest raw material from which to synthesize liquid petroleum by the Fischer process, but it is technically feasible to conduct the synthesis using hydrogen and carbon monoxide gas produced from coal at a somewhat higher cost and, so far as I know, no one has yet begun to worry about the depletion of our 2,000-year reserve of coal. Further, we have always available the 92,000,000,000 barrels of oil in shale."

New appointments at Reed College, Portland, Oregon, have been announced as follows: Josef F. Burnett, assistant professor of organic chemistry; Lewis H. Kleinholz, assistant professor of biology; and Frank P. Hungate, instructor in biology.

A 100-year index of publications of the California Academy of Sciences is being compiled and will be issued on the occasion of the Academy's Centennial in 1953. Since the *Proceedings of the California Academy of Sciences* were published out of series and unnumbered from 1876 to 1888 and the record of these was destroyed in the San Francisco fire in 1906, the Academy cannot be sure that it has a complete list of all its publications. Anyone having knowledge of scientific papers published by the Academy between 1876 and 1888 is urged to communicate with Miss Veronica Sexton, Executive Librarian, California Academy of Sciences, Golden Gate Park, San Francisco 18.

The National Registry of Rare Chemicals, Armour Research Foundation, 35 West 33rd Street, Chicago 16, Illinois, lists its new needs in the following list of chemicals: potassium pyrosulfate; triolein, trilinolein; cis and trans 1,2-dichloroethylene; adoninulose; methyl ethyl ether; Witte's peptone (1 lb.); neovaleraldehyde; ferric cyanide; erythroidine; uranyl formate; indium telluride; indium selenide; o-tolyl urethane; perseitol; perseulose; 1-erythrulose; xanthopterin; saccharic acid; and 3,5-dihydroxytoluene.

The Tennessee Agricultural and Industrial State College, Nashville, has been awarded a grant of $2,500 by the Research Corporation of New York to assist in the development of a research problem involving studies of ketenes and their derivatives. The project is to be carried out under the supervision of Carl M. Hill, head of the Department of Chemistry, with the assistance of Myron B. Towns, Thomas C. Goodwin, and Mrs. Mary E. Hill. The grant carries provision for two undergraduate fellowships and one assistantship. Research activities under the grant commenced on 1 September.

The California Institute of Technology has announced new appointments in its Division of Biology as follows: Marguerite Fling, Mrs. M. B. Houlahan, J. F. Nyc, and Bernhard Phinney, research fellows in chemical genetics; Daniel L. Harris, Eli Lilly research fellow in chemical genetics; N. H. Horowitz and H. K. Mitchell, senior fellows in research in chemical genetics; E. B. Lewis, instructor in genetics; W. K. Maas, Ray D. Owen, and Herschel Roman, Gosney research fellows in genetics; Adrian M. Srb, R. P. Wagner, and Arthur H. Whitley, National Research Council fellows in serological genetics, genetics, and embryology, respectively.

Washington University School of Medicine, St. Louis, has announced the following appointments and promotions, effective on 1 July: Robert A. Moore (head of the Pathology Department), as acting dean; Philip A. Shaffer (retiring dean), as Distinguished Service professor of biological chemistry; Carl Cori (professor of biological chemistry), as head of the Department of Biological Chemistry; Carl V. Moore (medicine), Richard S. Weiss (clinical dermatology), Henry G. Schwartz (neurological surgery), Mildred Trotter (anatomy), and James L. O'Leary (neurology), to professorships; and Alfred D. Hershey (bacteriology and immunology) and Wendell G. Scott (clinical radiology), to associate professorships.

As was previously announced, Hallowell Davis, di-

rector of research for the Central Institute for the Deaf, has been appointed research professor of otolaryngology and associate professor of physiology.

The Auburn Research Foundation of the Alabama Polytechnic Institute has received a Frederick Gardner Cottrell special grant-in-aid to support the research of R. Pepinsky on the crystal structure of sugars and their derivatives. The $7,500 grant was announced by Charles H. Schauer, Research Corporation of New York City.

The Department of Chemistry, Northwestern University, has announced the promotion of Robert Burwell to the rank of associate professor, and Frederick Bordwell, I. M. Klotz, and L. Caroll King to assistant professorships. M. J. Babcock, School of Nutrition, Cornell University; Fred Basolo, Rohm and Haas, Philadelphia; Raymond P. Mariella, University of Wisconsin; Robert L. Latsinger, Massachusetts Institute of Technology; and Norten C. Melchior, University of California, have been appointed instructors.

A lectureship in memory of Arthur Stanley Eddington, astronomer and mathematician, is in process of being established. This will provide for periodic lectures, to be given in Cambridge or elsewhere and to be published, on some aspect of contemporary scientific thought considered in its bearings on the philosophy of religion or on ethics.

To establish this memorial lectureship a capital sum of about 2,500 pounds will be required. An Appeal Committee has been formed in Cambridge, England, to receive subscriptions. These may be sent to Barclay's Bank, Ltd., Cambridge, for the credit of "The Arthur Stanley Eddington Memorial Lectureship" account; to the Honorary Secretary of the Appeal Committee, W. H. Thorpe, Jesus College, Cambridge; or to the Honorary Treasurer, Howard Diamond, A. C. A., 45, St. Barnabas Road, Cambridge. Dr. Thorpe has offered to supply, to those interested, details of the administration of the lectureship, for which the Royal Society, Trinity College, and the Society of Friends have agreed to appoint trustees.

Meetings

A National Conference on Hydraulic Machinery will be held in Chicago on 22–23 October, with headquarters in the Hotel Continental. This second annual meeting is sponsored by the Graduate School and the Armour Research Foundation, Illinois Institute of Technology, with the cooperation of the Western Society of Engineers and local sections of the American Society of Civil Engineers, the American Society of Mechanical Engineers, and the Society of Automotive Engineers.

The conference chairman is V. L. Streeter, chairman of fluid mechanics and thermodynamics research, Armour Research Foundation, and correspondence relative to the general activities of the conference, with the exception of registration, should be addressed to him.

Registration has been scheduled for 9:00 A.M. on 22 October. However, persons planning to attend are urged to register in advance by mail. A check or money order for $13.50 to cover the cost of conference activities must accompany all advance registrations and should be sent to the conference secretary, O. I. Teichmann, Armour Research Foundation, Illinois Institute of Technology, 35 West 33rd Street, Chicago 16. A limited number of rooms are being reserved at the Hotel Continental for conference guests. Reservations should be made directly with the hotel as soon as possible.

The International Hematology and Rh Conference will be held in Dallas, Texas, on 15 November, in affiliation with the Second Mexican Blood Transfusion Congress, which meets in Mexico City on 17–25 November.

The morning session will be held at the Adolphus Hotel, Joseph M. Hill, director of the William Buchanan Blood, Plasma and Serum Center, Baylor University Hospital, presiding. The afternoon session will be held at the Medical Library, Baylor University Hospital, Eduardo Uribe Guerola, president of the Second Mexican Blood Transfusion Congress, presiding. Guest speakers include: Philip Levine, Ortho Research Foundation, Linden, New Jersey; R. R. Race, Lister Institute of Preventive Medicine, London; William Dameshek, Tufts Medical School, Boston; Ernest Witebsky, University of Buffalo School of Medicine; I. Davidsohn, University of Illinois College of Medicine and Mount Sinai Hospital; Louis K. Diamond, Harvard Medical School; Ludwig Hirszfeld, University of Wroclaw, Poland; Ignacio Gonzalez Guzman, University of Mexico College of Medicine, Mexico City; E. Uribe Guerola, University of Mexico College of Medicine; and J. M. Hill, Southwestern Medical College and Baylor University Hospital.

Arrangements for housing accommodations may be made by notifying Dr. Sol Haberman, William Buchanan Blood, Plasma and Serum Center, Baylor University Hospital, Dallas, Texas, before 5 November.

A symposium to explore industry's need and use of instrumentation is being planned by the New York Section of the American Institute of Chemical Engineers, to begin at 1:30 P.M. on 17 October at the Pennsylvania Hotel, New York City. The meeting will conclude with a banquet in the evening at which

E. S. Lee, of the General Electric Company, will speak on the "Philosophy of Measurements."

Papers will be presented by Ed. S. Smith, Eclipse-Pioneer Division, Bendix Aviation Corporation, on "Underlying Principles of Instrumentation and Process Control"; J. C. Peters, Leeds & Northrup Company, on "Some Design Factors Affecting Process Control"; J. A. Patterson, Publiker Industries, Inc., on "Designing a Controllable Distillation Process"; F. H. Trapnell, E. I. du Pont de Nemours & Company, on "Instrumentation and Plant Design"; and H. D. Middel, General Electric Company, on "New Developments in Instrumentation." There will also be a motion picture on modern instrumentation.

Preregistration may be made with the chairman of the symposium, G. K. Hickin, American Cyanamid Company, 30 Rockefeller Plaza, New York 20, New York. The fee for the complete program will be $6.00.

The Society for Applied Spectroscopy will hold its first program meeting of the season at 8:00 P.M., Tuesday, 1 October, at the Pennsylvania Hotel, New York City. George R. Harrison, of the Massachusetts Institute of Technology, will address the group on the present status and future trends of spectroscopy. The meetings of the Society are open to the public, and those interested in spectroscopy are invited to attend.

Elections

E. D. Merrill, Arnold professor of botany, Harvard University, has been elected an honorary fellow of the Royal Society of Edinburgh.

The Harvey Society has elected the following officers for the year 1946–47: Vincent du Vigneaud, president; Wade W. Oliver, vice-president; Colin MacLeod, treasurer; Edgar G. Miller, Jr., secretary; Earl T. Engle, Harold G. Wolff, and L. Emmett Holt, Jr., Council members.

Marston Taylor Bogert, professor emeritus of organic chemistry, Columbia University, and president of the International Union of Chemistry, has been elected to honorary membership in the Société chimique de France.

Science and the British Colonies

The time is long past when it was British policy that Colonies should have only such services as they could support from their own revenues, and the last 16 years have witnessed provision from British metropolitan funds for Colonial development and welfare which has steadily increased in quantity and in scope. The Colonial Development Act of 1929 provided 1,000,000 pounds sterling a year for economic development and research ancillary thereto. Britain's Colonial Development and Welfare Act of 1940 increased that provision to 5,000,000 pounds a year, of which up to 500,000 pounds a year might be spent on research; and the amending Act of 1945 increased the total provision to 120,000,000 pounds to be spent over 10 years, of which up to 1,000,000 pounds a year may be spent on research and investigation.

The Act of 1940–45 permits of expenditure on "welfare,"—education, public health, and other social services—as well as on economic development; but the main emphasis remains on the latter, since it is held that only on a sound and healthy economic foundation can sound social and political structures be based.

The emphasis given in the legislation to research is a clear recognition of the vital part which science must play in British Colonial development from all points of view.

Immediate large-scale action was not, however, possible. For one thing, virtually all the scientific forces of Britain were engrossed in the urgent task of defense. The flow of recruitment to scientific posts in the Colonies virtually ceased, and many of those already in the Colonies had to be diverted to work of immediate relevance to the war effort. The additional and wider experience so gained has in many cases been most valuable, but unavoidably there has been a net loss of man-years of scientific work on the basic problems of the Colonies.

In the interval before large numbers of scientists can be made available for work on Colonial problems, the Colonial Research Committee (created in 1942) has taken the opportunity to conduct a comprehensive review of the state of research and science in the Colonies. We are not tilling virgin soil; much work of the greatest value has been done in many fields, often with the direct collaboration of institutions in Britain. For example, the rubber tree of commerce, *Hevea brasiliensis,* was introduced to the Far East through the agency of the Royal Botanical Gardens at Kew, near London, and thrived better there than in its native home. The cotton industry of East Africa, notably Uganda, owes its existence to long-term scientific breeding work, as does the Kenya pyrethrum industry which, under strict scientific control, produced the highest and most uniform quality of pyrethrum in the world. During the war, because of the vital importance of pyrethrum for the manufacture of insecticidal sprays, supplies of seeds were sent from Kenya to many parts of the world (although this plant does not propagate well from seed, the normal method being the use of cuttings).

Starting in 1942, the Colonial Research Committee proceeded to review existing arrangements for research in or for the Colonies. The Committee found

that, although much good work had been and was being done, it was inadequate in quantity and not sufficiently comprehensive. In particular, the absence of comprehensive basic information in certain important fields and of machinery adequate to make good these deficiencies was noted. Accordingly, there emerged certain broad proposals which are now being carried into effect:

(1) A centralized Geodetic and Topographical Survey, designed to complete the major triangulation of the Colonies with the assistance of the Royal Air Force.

(2) A similar centralized Geological Survey, leaving specific detailed studies normally to be done, as required, by the specialist staffs of Colonial governments themselves. With (1), this will make possible for the first time a clear view of the mineral and underground water resources of the Colonies and will greatly facilitate systematic soil surveys as a basis for agricultural planning and development.

(3) A comprehensive Meteorological Service, to serve at once the needs of agriculture and those of a rapidly growing system of air communications.

(4) A much more comprehensive and systematic approach to agricultural research, involving a clear division between (a) the fundamental work best done at universities and other institutions in Britain; (b) long-term applied work in the Colonies and the various surveys in this field, to be centered on a series of regional stations, such as the existing East African Agricultural Research Institute and the Imperial College of Tropical Agriculture in Trinidad, West Indies; and (c) short-term and applied and extension work, normally best done by the Agricultural Departments of the individual Colonies.

(5) A more comprehensive organization of medical research, in association with the Medical Research Council of Britain, operating at least in part through institutes in the Colonies, of which several have existed for many years in East and West Africa, Malaya, and elsewhere.

(6) An entirely new emphasis on research in the social sciences, including anthropology, ethnography, linguistics, and socioeconomic studies, not simply on account of their intrinsic interest but also on account of their great practical value for administrations and for the contribution which they can make to the development of a sound and healthy community sense, and consequently to the whole social and political progress of Colonial peoples.

In order that work in these fields may be planned and carried out in the light of the best available advice, a series of Specialist Committees have been created. These Committees, on which scientists of the greatest eminence in their respective fields have readily agreed to serve, are carefully examining the field, scrutinizing specific proposals submitted to them, and making recommendations regarding new problems which they believe should be investigated.

Another body, the Colonial Products Research Council, came into being about the same time as the Colonial Research Committee. This serves directly the economic development of the Colonies by enlisting the full resources of science in the task of finding new and better uses for Colonial raw materials and so broadening and rendering more secure the economic basis of the life of Colonial peoples. The Council includes a number of eminent scientists in various fields and operates by selecting Colonial commodities and arranging for their systematic study in the universities or other laboratories best fitted to deal with each particular problem. By this means there is achieved a considerable economy and efficiency of effort and also a spread among scientists in Britain of knowledge of, and interest in, Colonial problems.

In choosing the commodities for study, the Council has been guided by a variety of factors, chief among which have been importance as a means of livelihood to large numbers of producers, vulnerability to economic disturbances such as the depressions between the two German wars, and promise of development. With these objectives in view, the Council chose for study: sugar and its by-products, as being the economic mainstay of many of the West Indian islands, Mauritius in the Indian Ocean, and Fiji in the Western Pacific; vegetable oils, because of their great importance for West Africa, Ceylon, and Malaya; theobromine, as a derivative of the important West African cocoa industry; eugenol, as a by-product of the clove industry of Zanzibar; sundry essential oils, as showing promise of new industries in many parts of the Colonies; and starch, which is produced in a variety of forms in many Colonial territories and could be produced readily in more if new and more varied uses are found for it. This list is far from exhaustive.

In addition, the Council has founded in Trinidad a Colonial Microbiological Research Institute. The first director of the Institute is Dr. A. C. Thaysen, who has been responsible for the evolution of a new strain of yeast (*Torulopsis utilis* var. major) and the industrial technique for its bulk manufacture on which plans have been based for a large-scale factory now nearing completion in Jamaica. This Institute, the first of its kind in the tropics, will be concerned with microbiological problems in the widest sense, including possible developments in fermentation industries based on sugar and molasses; the antibiotic action of the metabolism products of various microorganisms in relation to plant diseases such as Panama Disease (Fusarium) of bananas, which has spread havoc throughout plantations and small holdings; and the innumerable problems of decay and disease to which the very active microorganisms of tropic zones give rise. The policy of the Council is to seek, where pos-

sible, new uses and processes which may tend to develop industries in the Colonies themselves.

Basic surveys may be said to have three aspects or values: (1) They clear the way for more fundamental research by indicating clearly which are the greatest needs; (2) in themselves, they are of the utmost value for the planning and execution of schemes of development in the economic or other fields; and (3) they enable Colonial peoples to know themselves and their environments and thus take an ever-increasing part in the development of their own lands and the building up of their own communities on a basis of light and knowledge.—*C. Y. Carstairs* (Secretary, Colonial Research Committee, British Colonial Office).

In the Laboratory

An Indwelling Arterial Needle for Use in the Radial Artery[1]

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The problem of obtaining arterial blood when at altitude interposes a major difficulty in the way of analyzing the merits of various types of high-altitude equipment. It is desirable to implant a needle in the artery before commencing the experiment and to be able to allow the subject a few minutes to recover from the effects of the arterial puncture before proceeding. The direct tapping of an artery at altitude is difficult, requiring delicacy of procedure by the operator and vasomotor stability on the part of the subject. Both of these are not necessarily available under conditions when there may be severe anoxia and marked discomfort.

Although satisfactory for clinical work, it was felt that implants into the femoral artery (1) were too immobilizing to be safe for chamber work, where rapid movement might at any time be necessary to meet an emergency. After a number of experiments in which various difficulties were encountered, a modified Lindemann needle has been developed for radial implantation. Although still in the process of modification, it has already been shown to be of practical value in altitude studies. The following technique, modified in certain respects from that used by the Columbia group for femoral implantation (*1*) to allow for anatomical differences between the two puncture sites, is employed in these laboratories.

After heating the hand in water at 48° C. for five minutes to increase blood flow, the radial artery is palpated carefully while the subject rests the wrist upon a wooden block with the hand sharply extended at the wrist. The skin is sterilized, and a small amount (0.3 cc.) of 2 per cent novocain is placed on either side of the artery above the radial styloid, using a 25-gauge needle. No attempt is made to infiltrate the wall of the artery. If a small amount of anesthetic is used, the landmarks and the artery will not be obliterated by the mass of subcutaneous infiltration. When anesthetized, the skin is pierced directly over the artery by the implant needle. In Fig. 1 the insertion of this implant needle is presented. It consists of a 23-gauge needle honed down

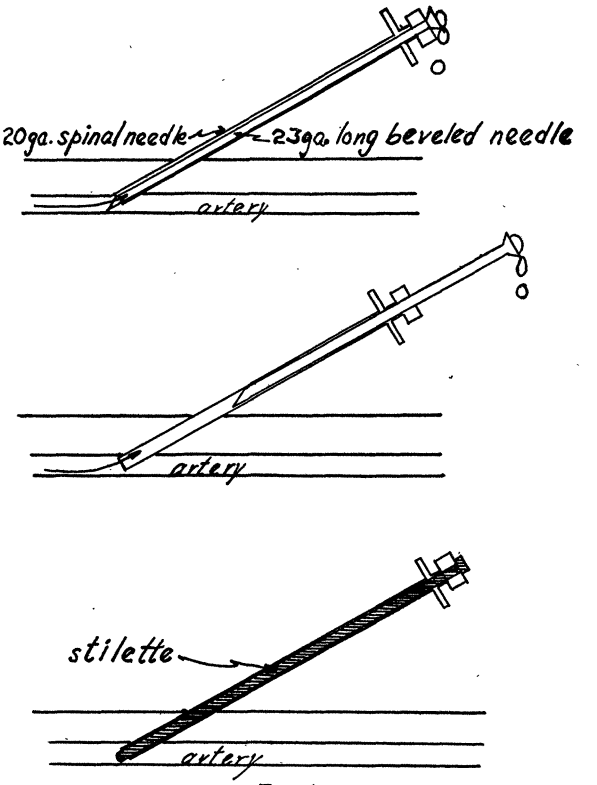

Fig. 1

[1] The work described in this paper was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and the University of Southern California.