physical environment generally is of secondary or indirect significance for mankind. The great influences of selective migration and of the intermarriage of certain types of people are stressed in his *The character of races* (1924) and elaborated upon at length in *Mainsprings of civilization* (1945). In his *Human habitat* (1927) this subject is attractively and briefly presented.

Huntington was the author or co-author of more than 25 volumes, contributed a chapter to each of about 20 other books, and wrote more than 130 articles, more than a score of which were in magazines of wide circulation. His books include *Explorations in Turkestan* (1905), *Pulse of Asia* (1907), *Palestine and its transformation* (1911), *The climatic factor as illustrated in arid America* (1915), *Civilization and climate* (1915, 1924), *World power and evolution* (1919), *The red man's continent* (1919), *Principles of human geography* (1920–1940), *Principles of economic geography* (1940), *Climatic changes: their nature and causes* (1922), *Earth and sun* (1923), *The character of races* (1924), *West of the Pacific* (1925), *Quarternary climates* (1925), *Pulse of progress* (1926), *Builders of America* (1927), *Weather and health* (1930), *Living geography* (1932), *Tomorrow's children* (1935), *After three centuries* (1935), *Season of birth* (1938), and *Geography of human affairs* (1947).

Mainsprings of civilization (1945) is a monument not only to his exceptional erudition, energy, and persistence but to American science. Indeed, *Time*, in its recent obituary, characterizes it as surpassed only by Toynbee's classic in breadth of scholarship, wide interest, and literary attractiveness.

Dr. Huntington was born in a manse in Galesburg, Illinois, went to southwestern Asia upon graduating from Beloit College in 1897, returned again to Asia for further extended exploration after two years at Harvard (1901–03), and carried on years of field research in southwestern United States and Mexico. Later he did extensive field work in Europe, Africa, Australia, and South America. No other geographer has made such prolonged and varied foreign field studies, and none has shared his observations so attractively. *West of the Pacific* is considered by some competent persons as a "gem" of descriptive geography, but most of his works include effective descriptions. His death, from a heart attack on October 17, 1947, terminated his work on *The pace of history*, a supplement to *Mainsprings of civilization.* Undoubtedly Huntington's influence will be considerable as long as our civilization continues.

STEPHEN S. VISHER

Indiana University, Bloomington

NEWS *and Notes*

Bernard F. Riess, professor of psychology, Hunter College, has been appointed research associate, Department of Animal Behavior, American Museum of Natural History. Dr. Riess, who is spending a year at the Museum as a Guggenheim Fellow, is investigating biochemical factors affecting behavior in mammals.

Ernst Antevs, formerly of Harvard University and the Carnegie Institution of Washington, has been appointed research associate in glacial geology, Chicago Natural History Museum, and **Ch'eng-chao Liu,** professor of zoology, West China Union University, Chengtu, has been appointed research associate in the Division of Reptiles.

Jay McLean has resigned as associate professor of surgery, Ohio State University, to become director, Bureau of Cancer Control, Health Department Government of the District of Columbia, Washington, D. C.

Hayse H. Black, formerly officer in charge, U. S. Section, International Joint Commission Boundary Water Pollution Investigation, Detroit, has been appointed associate professor of sanitary engineering, Department of Civil Engineering, State University of Iowa.

Laurence H. Snyder, dean of the Graduate College, University of Oklahoma, has been giving talks at various institutions on the general subject of human and medical genetics. On October 23 he spoke before the student body at Hollins College, Virginia; on October 28, before the Fort Henry Academy of Medicine, Wheeling, West Virginia; on December 5, before the Terre Haute Academy of Medicine; and on December 11, at the annual initiation ceremonies of Phi Sigma at the University of Texas.

Willard Rouse Jillson, geologist and engineer, Frankfort, Kentucky, and formerly director of the Kentucky Geological Survey, has been appointed professor and head, Department of Geology, Transylvania College, Lexington, Kentucky.

Walter Buehler, a graduate of Purdue University and past-president of the American Wood Preservers Association, has been appointed consultant in wood technology and preservation, School of Forestry, University of Florida.

Sidney Q. Janus has been appointed part-time professor, and **A. S. Glickman** as instructor, in the Department of Psychology, Georgia School of Technology.

Grants and Awards

Six new grants for research in mental health under the National Mental Health Act have been recommended by the National Advisory Mental Health Council and approved by Thomas Parran, Surgeon General, U. S. Public Health Service. Institutions receiving the grants, and their project directors, follow: University of California, Berkeley, **Karl M. Bowman,** professor of psychiatry and medical superintendent, and **Jurgen Ruesch,** research psychiatrist and lecturer in psychiatry, Langley Porter Clinic; Columbia University, College of Physicians and Surgeons, **Abner Wolf,** associate professor of neuropathology; The Roscoe B. Jack-

son Memorial Laboratory, Bar Harbor, Maine, **J. P. Scott,** chairman, Division of Behavior Studies; Mu Iota Sigma Fraternity, Illinois School for the Deaf, Jacksonville, Illinois, **M. Arline Albright,** associate professor of education and psychometrist, and president, Mu Iota Sigma Fraternity, Milwaukee, Wisconsin; Wayne University School of Public Affairs and Social Work, Detroit, Michigan, **Fritz Redl,** professor of social work, and **Ronald Lippitt,** director of research, Research Center for Group Dynamics (Massachusetts Institute of Technology); and Wesleyan University, Middletown, Connecticut, **David C. McClelland,** assistant professor, Department of Psychology.

Charles Clemon Deam, Indiana, botanist, received the second Mary Sope Pope Medal of the Cranbrook Institute of Science, December 18, in recognition of a lifetime of collecting and publishing on the Indiana flora, and especially for his work, *Flora of Indiana.*

Colleges and Universities

The Medical School of the University of Birmingham, England, will conduct a four-week Post-Graduate Summer School, July 10–August 7, 1948, which is intended for American, British, and European students, both men and women, who have done advanced study in the appropriate fields of science and medicine. The session, to be divided into two terms of two weeks each, will offer the following main courses: (A) The Physiology of the Sex Hormones, four weeks, 16 seminars; (B) Normal and Abnormal Fat Absorption in Experimental Animals and Man, first term, 8 seminars; and (C) Lipoprotein Association in Biological Systems, second term, 8 seminars. Several short courses will be arranged in each term, as well as a series of visits to leading hospitals, medical centers, and places of historical interest in the vicinity. Opening speakers at seminars will include S. Zuckerman, professor of anatomy, University of Birmingham, and A. C. Frazer, professor of pharmacology, University of Birmingham. J. J. Elkes, lecturer in pharmacology, and P. L. Krohn, lecturer in anatomy, both of the University, will be deans of the School for the first and second terms, respectively, while Sir Leonard Parsons, dean, Faculty of Medicine, and emeritus professor of pediatrics, will be president of the School. Cost of the four weeks will be $96 for tuition, and $80 for board and room in one of the University residence halls. American applications should be submitted by March 15 to the Director, Institute of International Education, 2 West 45th Street, New York 19, New York, marked "Birmingham University Medical Summer School."

Meetings

The 1948 annual meeting of the American Institute of Chemists will be held Saturday, May 8, 1948, at the Hotel Pennsylvania, New York. The program, to be announced later, will commemorate the Silver Anniversary of the Institute, which was founded in New York in 1923.

The First International Poliomyelitis Conference will be held at the Waldorf-Astoria Hotel, New York, July 12–17, 1948, under the sponsorship of the National Foundation for Infantile Paralysis. More than 60 foreign countries are expected to be represented by officials who will be asked to present summarizations of the problems of poliomyelitis in their countries at a special session which will be in charge of Thomas Parran, Surgeon General, U. S. Public Health Service. Basil O'Connor, president of the Foundation, will be the official host to the delegates, while Hart E. van Riper, medical director of the Foundation, has been appointed general chairman. Scientific and technical papers on research and treatment of poliomyelitis will be presented by professional authorities from this country and abroad, and in addition, the program will include panel discussions on the various subjects. The program is being arranged by an advisory board including Irvin Abell, clinical professor of surgery, University of Louisville; Morris Fishbein, editor, *Journal of the American Medical Association*; David Lloyd, associate member, Rockefeller Institute for Medical Research; Kenneth Maxcy, professor of epidemiology, Johns Hopkins University; Rustin McIntosh, professor of pediatrics, Columbia University; Frank Ober, professor emeritus of orthopedic surgery, Harvard University; and Thomas Rivers, director, Hospital of the Rockefeller Institute for Medical Research.

In addition to the sessions, there will be a scientific exhibit section, demonstrations of muscle testing and treatment procedures, and a film program. Coordinating this phase of the Conference will be an advisory committee consisting of Thomas G. Hull, director of scientific exhibits, American Medical Association, and Charles F. Branch, director of scientific exhibits, American College of Surgeons.

Conference headquarters have been established in the Waldorf-Astoria under the direction of Stanley E. Henwood, of Chicago, who has been appointed executive secretary.

An International Rheological Congress will be organized, on the initiative of the British Rheologist's Club, by a group of Dutch rheologists under the sponsorship of the Joint Committee on Rheology of the International Council of Scientific Unions and the Rheological Committee of the Royal Netherlands Academy of Sciences at Amsterdam. The Congress will probably meet in Scheveningen, Holland, September 21–24, 1948. The provisional program follows: Tuesday morning, general lecture on Recent Developments in the Theory of Viscosity; afternoon, communications from the Joint Committee, and general lectures on Nomenclature, and Fundamental Experimental Methods; Wednesday morning, sectional meetings; afternoon, lectures on Solutions of Macromolecular Substances, and Russian Work on Rheology; Thursday morning, sectional meetings, and lecture on Relations Between Stress and Strain in Complicated Systems; afternoon, lectures on Abnormal Substances and Abnormal Phenomena of Flow, and Psychophysical Aspects of Rheology; evening, informal dinner and entertainment; Friday morning, sectional meetings, and lecture on Rheological Problems in Biology; afternoon, lecture on Rheology in Industry, and communications from the Joint Committee; Saturday, and possibly the following Monday, excursions if sufficient interest is shown.

Those wishing to present a paper should communicate with the first secretary, Dr. R. Houwink, Rubber-Stichting, Julianalaan 134, Delft, Holland. Manuscripts must not exceed a maximum space of 3,000 words, formulas and diagrams included, and must be received before May 1, 1948. The maximum time to be allowed each paper in the sectional meetings will be about 30 minutes, and it is expected that the speaker will give

only a short account of his paper so that ample time will be available for discussion. Reprints of all papers will be forwarded to participants at least a month in advance of the Congress. Registration fee will be about $5.00.

The organizing Committee, headed by J. M. Burgers, chairman, and Dr. Houwink (Rheological Committee of the Netherlands Academy of Sciences), consists of H. Kramers (Netherlands Physical Society), A. J. Staverman (Netherlands Chemical Society), R. N. J. Saal (Section of Oil Technics, Royal Institution of Engineers), A. van Rossem (Society for Materials), and H. C. den Daas, assistant secretary.

The Indiana Academy of Science held its 63rd annual meeting, October 16–18, at Ball State Teachers College, Muncie, Indiana. The annual banquet was held Friday evening, followed by an address by J. F. Mackell, president, on "Graduate Degrees for College Science Teachers." An anonymous donor has made possible the establishment of an annual award to be given in each of two sections of the Academy for outstanding work during the previous 5 years. The awards will bear the names of past-presidents. At this meeting Ray C. Friesner, head, Department of Botany, Butler University, was awarded the John M. and Stanley Coulter Prize in Botany, and J. Paul Scott, formerly of Wabash College, was granted the David Starr Jordan Prize in the Zoology Section. Approximately 100 papers were read at the 12 divisional meetings on Friday and Saturday.

At the close of the business meeting Winona Welch, DePauw University, was elected president; Mason Hufford, Indiana University, vice-president; O. B. Christy, Ball State Teachers College, secretary; Donald E. Miller, Ball State Teachers College, assistant secretary; W. P. Morgan, Indiana Central College, treasurer; P. D. Edwards, Ball State Teachers College, editor; and William A. Daily, Butler University, press secretary.

The press secretary has announced that the 1948 annual fall meeting will be held October 28–30 at Indiana University, Bloomington.

T. H. Manninen, as the newly appointed manager of development, U. S. Industrial Chemicals, Inc., will supervise all pilot plant and engineering development activities of the company. Dr. Manninen has been with USI since 1937.

Centro Research Laboratories, Briarcliff Manor, New York, have recently become associated with Chemisch-Technisch Adviesbureau, Haarlem, Holland, which is directed jointly by J. Rinse, a leading research worker on the continent in the field of organic coatings, plastics, pigments, and associated materials, and W. Dorst, a specialist in plant layout, especially design and the practical application of paints and other coating materials. The Holland plant has carried out extensive studies in the chemistry of both raw materials and intermediates such as the polymerization, dehydration, vinylation, and blowing of linseed, soybean, tung, oiticica, and castor oils, resin modification, chlorination of rubber, the formulation of fungicides and preservatives, and the products of pigments and other raw materials. The development of new and interesting products such as metal putties, plastic coatings for concrete, and grease-resisting and shrinkage-controlled textiles is anticipated by Centro as a result of this new association with the Dutch concern.

Recent Deaths

G. H. Hardy, 80, formerly Sadleirian professor of mathematics, University of Cambridge, England, died on December 1 in Cambridge. Prof. Hardy was recently named to receive the Copley Medal of the Royal Society.

S. Lawrence Bigelow, 77, professor emeritus of general and physical chemistry, University of Michigan, died December 3 in West Hartford, Connecticut.

Wesley G. France, 55, professor of colloid chemistry and electrochemistry, Ohio State University, died December 4 of a heart attack.

Rollins A. Emerson, 74, head of the Department of Plant Breeding at Cornell University from 1914–1942, and dean of the Graduate School from 1925 to 1930, died December 8 at Ithaca after a long illness.

Lord Rayleigh, 72, onetime president of the British Association for the Advancement of Science, emeritus professor of physics and chairman of the governing body, Imperial College of Science, died December 13 at his home near Witham, Essex, following a heart attack.

Earl S. Johnston, 58, chief of the Division of Radiation and Organisms, Smithsonian Institution, died December 17 at his home in College Heights, Maryland, after an illness of several months.

The American Museum of Natural History is sending the first major American expedition to the Cape York Peninsula, Australia, in March, for a 6-month zoological and botanical exploration. The 1948 Archbold Cape York Expedition will be led by **Leonard Brass,** Museum botanist, who has already left for Australia, and include as party members, **G. H. H. Tate,** curator, Department of Mammals, **Hobart M. Van Deusen,** also of the Department of Mammals, and **G. M. Tate,** who will be in charge of transportation, and collection of insects, reptiles, and amphibians. This is one of a series of biological investigations in Australian and New Guinea areas conducted by Archbold Expeditions, an organization established by Richard Archbold and affiliated with the Museum. This expedition will concentrate on the collection of mammals and plants, although amphibians, reptiles, and insects will also be sought for the Museum's collections. The group expects to discover a number of new species of both mammals and plants. Seeds of palms and other ornamental plants will also be collected for cultivation at the Fairchild Tropical Garden in Florida. It is believed that the most interesting and profitable areas for collecting will lie in the northern part of the Peninsula, between Coen and Somerset. The group will establish a series of bases connected by water transport on the eastern coast of the Peninsula, and will cover not only the tropical rain forest areas there, but work into the western open Eucalyptus forest territory, making it possible to study a wide range of biological environments of the Peninsula. The plant collections will go to the Arnold Arboretum, which is giving financial support to the project.

Electronic engineer and physicist positions are available in several Federal research laboratories, including the U. S. Navy Underwater Sound Laboratory, Fort Trumbull, New London, Connecticut; Naval Research Laboratory

Field Station, 470 Atlantic Avenue, Boston; and the Cambridge Field Station, Watson Laboratories, Air Material Command, 230 Albany Street, Cambridge, Massachusetts. Salaries range from $3,397 to $8,179 per year. To qualify, applicants must have completed (a) a full four-year college course with major work in physics, mathematics, or engineering science, or (b) at least four years of progressive technical experience in engineering or physics, or (c) any time-equivalent combination of education and experience. All applicants for the position of physicist must have completed 24 college semester hours in physics. In addition, all applicants must have had from one to four years of progressive professional experience in the appropriate field. Graduate study may be substituted for experience up to a maximum of two years of experience. No written test is required. Full information and application forms may be secured from most first- and second-class post offices, from civil service regional offices, or from the U. S. Civil Service Commission, Washington 25, D. C. Interested persons should ask for Announcement No. 1-34(47). Applications will be accepted until further notice by the executive secretaries of the Boards of U. S. Civil Service Examiners at the laboratories named above.

TECHNICAL PAPERS

The Common Cold: A Note Regarding Isolation of an Agent[1]

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For the past few months studies of the common cold have been in progress by the National Institute of Health. The infectiousness of nasal washings from cases of the disease and from laboratory materials has been investigated by intranasal inoculations of adult male volunteers[2] in a nearby correctional institution. Attempts to isolate and cultivate an agent or agents have been carried out at the Institute.

On January 13, 1947, nasal washings in sterile skimmed milk (*1, 4, 10*) were obtained from an individual within 24 hours of onset of cold symptoms. After laboratory studies to rule out, in so far as practical, the presence of dangerous pathogens, the unfiltered washings were given intranasally to 5 volunteers who had been in strict isolation in the institution hospital for 6 days. All subsequent groups had preliminary isolation periods of 6–8 days. After an incubation period of from 36 to 48 hours, all 5 volunteers developed symptoms and signs of minor upper-respiratory infection with considerable variation in severity.

All 5 complained of fatigue, nasal obstruction, and frequent expectoration. Three complained also of sneezing, headaches, coughing, and burning, watery eyes. Two experienced prodromal chilly sensations and hot flashes. Objectively, hyperemic obstructed nasal passages, red throats with prominent lymphoid follicles, and large quantities of postnasal mucus for 2–5 days were evident. Slight temperature elevations between 99° and 99.6° developed after onset. One volunteer suffered all the above complaints to a more severe extent, and in addition developed moderate rhinitis, a mild laryngitis for a day, moderate pharyngitis, episodes of sharp, sticking pains substernally for 3 days (X-rays normal), and a temperature elevation to 102° F. for a day.

Nasal washings in sterile skimmed milk taken within 24 hours of onset of symptoms in this volunteer were inoculated into embryonated hens' eggs along with 1,000 units of penicillin and 100 units of streptomycin.

After two passages by way of the allantoic cavity, there was an unusual number of deaths of embryos between the 4th and 6th days following inoculation. The fluids from these proved bacteriologically sterile, and several substrains were established. One of these substrains was tested in the 4th passage in human volunteers and produced a mild illness reminiscent of the original volunteer group. In fluids from the 5th egg passage, however, no obvious clinical disease was produced.

A second substrain was passed blindly every 3 days. After 8 passages allantoic fluids were tested in a group of volunteers with a failure to produce disease.

A third substrain was carried through 4 allantoic passages, transfers being made from the 5th to the 7th day following inoculation. Occasional embryos died between the 3rd and the 5th days. After the 4th passage a pool of allantoic fluid, when tested in volunteers, produced mild coryza and a slight elevation of body temperature. An equal number of volunteers given normal allantoic fluid remained well.[3] Two substrains were started from the allantoic fluid pool which produced the

[1] In this brief paper no attempt is made to review the literature. Some previous reports concerning the isolation of a possible agent or agents are listed under References (*2, 3, 5–9*).

[2] Certain criteria have been established for the selection of volunteer participation in the study. Volunteers must be healthy, physically fit, adult males between the ages of 20 and 40 years, who have given no history or physical findings of chronic sinusitis, allergic rhinitis, tuberculosis, or recent pneumonia. They must have no history of any respiratory infection for the past 6 weeks and no nasopharyngeal abnormalities.

We wish to acknowledge the generous cooperation of the volunteers as well as that of the Department of Corrections, District of Columbia, in making its facilities available for the human studies of the common cold.

[3] Volunteers, hospital attendants, and the nurse are purposefully kept unaware of the nature of the inoculum and the identity of the controls. The volunteers frequently are apprehensive for the first 24–48 hours following intranasal inoculation. In most control groups some mild and transient nasal irritative phenomena are observed during this period. Between 25 and 50 per cent of the controls have occasional sneezing and slight nasal obstruction with some hyperemia and swelling of the nasal mucosa. A few have complained of a headache. In several controls a brief temperature rise has occurred.