GENERAL SCIENCE

Science Internationalism Aided By "Scientific Immigrants"

Professors Einstein and Ladenburg Come to Princeton To Augment Large Group of Foreign Scientists Here

SCIENTISTS are more nearly true internationalists than any other class of workers, not even excepting dancers and musicians whose arts, like mathematics, escape the barriers of language.

The recurring visits of Prof. Albert Einstein to America and his imminent addition to the staff of the unique Institute for Advanced Study established at Princeton are merely material evidences of the increasing importance of American scientific work.

While American institutions have stepped into the lead in many branches of science, particularly astronomy and biology, science in this country has not ceased to call eminent leaders from other countries to become scientific immigrants and make America their home.

Although Prof. Einstein will still consider Berlin his home, he will be an American worker in science in a practical sense when he begins to spend the academic years at Princeton next fall. With him will come his associate, Dr. Walter Mayer, of Berlin.

To Princeton there came this fall another scientific immigrant, Prof. Rudolf Ladenburg, distinguished German physicist, formerly at the Kaiser Wilhem Institut in Berlin. He is Cyrus Fogg Brackett professor of physics of Princeton University and atomic research will benefit from his projected researches on high voltage electric energy and the development of a liquid hydrogen laboratory that will give special attention to the structure of solids.

To Baltimore from Leipzig there has come Dr. Henry E. Sigerist to head the Johns Hopkins University Institute of the History of Medicine, succeeding Dr. William H. Welch, "dean of American medicine" who founded it and has retired as director.

Dr. Walter Baade, German astronomer, is aiding in the important probings of the universe's depths being conducted at Mt. Wilson Observatory, Pasadena, Calif., while Dr. Beno Gutenberg of the famous Frankfurt school of geophysical studies last year joined the Seismological Laboratory at Pasadena.

Such intellectual immigrants are welcomed by their American colleagues. They will be absorbed into American life. Eventually as world economic conditions improve America may be expected to add to its present quota of intellectual exports, scientific emigrants who will repay our favorable intellectual trade balance.

Science News Letter, November 5, 1932

ZOOLOGY

Field Museum Visitors See Bit of Abyssinia

See Front Cover

VISITORS to Chicago can make an effortless side-trip to the wilds of Abyssinia by walking down the Carl Akeley Memorial Hall of African Animals in the Museum of Natural History. At the end, a remarkable new group of African mammals has been arranged so as to give a most naturalistic illusion of a vista across a water-hole where the beasts meet in a truce imposed by the common foe of all life—thirst.

In a space as big as the proscenium arch of an ordinary theater, with background skillfully portraying the endless African plain dotted with acacias, mimosas and other characteristic trees, are set giraffes, two-horned rhinoceroses, elands, gazelles, zebras and an oryx.

The cover illustration shows the giraffe group.

Science News Letter, November 5, 1932

STANDARDS

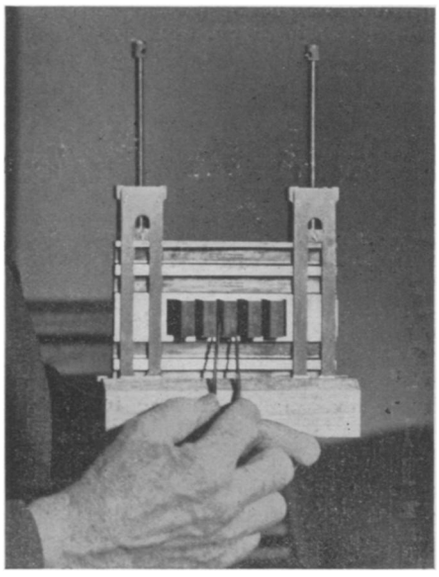
Industrial Inch Loses Two Millionths of Length

THE INCH has lost two millionths of its former length.

Though the shrinkage is not legal, industry of this country at a meeting of its representatives with the American Standards Association in New York, N. Y., decided to use a new ratio between the American inch and the millimeter in order that the precise measuring of both England and the United States be done on the same basis. Their new definition says that the inch is exactly 25.4 millimeters long instead of 25.40005 millimeters. This is a difference of about one-eighth of an inch in a mile.

Adoption of the new ratio is the second and last step necessary to put precision measuring of industry of England and the United States on the same basis, H. W. Bearce, co-chief of the Division of Weights and Measures of the U. S. Bureau of Standards, told Science Service. The first and most important step was taken by England, he said, when that country's industrial representatives decided to use 68 degrees Fahrenheit as the standard reference temperature for dimensions. Their standard to which corrections for expansion and contraction had been made was 62 degrees, while engineers in the United States used 68 degrees.

"These changes were necessary," Mr. Bearce explained, "because manufacturers of precision gage blocks are attaining an accuracy of one or two millionths of an inch per inch of length, while manufacturers of precision limit gages are regularly working to an accuracy of a few hundred-thousandths of an inch. Obviously in work of this character, uncertainty or indefiniteness to the extent of the difference between the



CASTLE OF ACCURACY

This is the kind of apparatus that prompted engineers to change the definition of one common unit in terms of another. It measures a difference in the length of metal blocks of two millionths of an inch, past the accuracy of the old ratio between the American inch and the millimeter.

U. S. inch and the British inch (about one part in 363,000) could not be tolerated. The U. S. Bureau of Standards and the National Physical Laboratory at Teddington, England, will certify industrial gages on the new basis."

Mr. Bearce explained that some engineers will probably describe the changes as the setting up of a new industrial millimeter rather than the actual changing of the length of the inch. The millimeter now widely used, a unit of the metric system, is defined by a platinum bar at the International Bureau of Weights and Measures near Paris.

Science News Letter, November 5, 1932

PHYSICS

Roosevelt Medal Presented To Dr. Robert A. Millikan

DR. ROBERT A. MILLIKAN was presented the Roosevelt medal, one of a series of awards established in 1923 by the Roosevelt Memorial Association.

Dr. Millikan, director of the Norman Bridge Laboratory of Physics and chairman of the executive council of California Institute of Technology, has become widely known because of achievements in physical research and has been given many degrees and awards, including the Nobel prize for physics in 1923. Outstanding among his accomplishments are the measuring of the charge on the electron and the study of cosmic radiation which he is pursuing now.

Science News Letter, November 5, 1932

PSYCHOLOGY

Original Greek Read to Infant In Lengthy Test of Memory

DOES the year-old infant remember what is said to him?

Evidence that he does to some extent was found in an experiment conducted by Dr. Harold E. Burtt, of Ohio State University. According to what Dr. Burtt found, the sentimental mother who converses at length with her baby may be doing so with more effect than more practical outsiders are inclined to think.

Nonsense was not used by Dr. Burtt in his experiment, but he did use what he says was equivalent to nonsense to the baby—passages from Sophocles' "Oedipus Tyrannus" in the original Greek. Three passages consisting of 20 lines each were read to the baby daily from the time he was 15 months old until he was 18 months. Then new passages were used for three months, and the procedure continued until the baby was three years old, new passages being selected each three months and the former ones dropped. Then the whole matter was allowed to rest until the boy was eight and a half years old when he was required to learn these and other passages.

The boy was not told which were the new passages. Yet he learned those that had been repeated to him in fewer trials than he required to master the new material. For example, he required 382 trials to learn the passage he heard when 15 months old and 226 for the lines repeated to him at 30 months, but an average of 435 trials for the new material.

Science News Letter, November 5, 1932

METEOROLOGY

Stratosphere Weather to Be Reported by Radio

TWO OUTPOSTS of North America's Polar Year will obtain scientific data from the upper air by radio. They are Canada's farthest north station at Coppermine on the Arctic Ocean and the College-Fairbanks station in Alaska, established by the United States Government and cooperating scientific agencies.

Thirteen automatic radio transmitters, operated by temperature and pressure indicators and fastened to a balloon, have been obtained for each station from the international Polar Year Commission. The North American stations will send their instruments up once a month, at the same time similar equipment is released in Europe and Siberia.

This apparatus, known as the radio meteorograph, was designed by the Russian meteorologist Moltchanoff. The instruments will probably be lost in the Arctic wilderness, but radio signals giving temperature and pressure will be sent back continuously from the time they leave the scientists until they are higher than Prof. Auguste Piccard ascended in his aluminum sphere.

The complete meteorograph weighs slightly more than three pounds, and nearly half of this weight is concentrated in the battery. Electrical contacts controlled by sensitive temperature and pressure elements operate the variable signals.

The College-Fairbanks station is one of the most important in the chain of scientific outposts now girding the Arctic for the second great Polar Year. Some of the agencies which have made possible its establishment are the Department of Terrestrial Magnetism of the

EXPLORATION

British to Attack Mt. Everest From Ground and Air

DOUBLE ATTACK on the lofty summit of Mt. Everest, from the air and from the ground, will be made by British explorers, according to plans.

Success in arranging the climb up the famous mountain is reported to British geographers in the *Geographical Journal*. The expedition will be led by Hugh Ruttledge, a retired deputy commissioner of the Indian Civil Service, who has made a name as an explorer in the mountains of Asia, and who has the additional personal advantage of standing high in esteem of both Buddhists and Hindus.

The Mount Everest Committee received permission from the Dalai Lama to attempt the climb, only after overcoming strong feeling on the part of Tibetans. Accidents that have befallen previous expeditions impress religious people of Tibet with the feeling that the gods who live in high places resent invasion of their holy retreats.

The difficult enterprise of flying over the top of the same 29,000-foot peak is planned by another British expedition, of which Lord Clydesdale is chief pilot. Describing the problems, he stated that fifty miles of the flight is over impossible country, in which sole reliance must be placed on the engine.

The only original flight now really worth while is over Mt. Everest, he pointed out.

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