training could fire the missile, recover the cameras, process the films in a few hours, and then report the results to a mainland weather data-processing center where they could be integrated with reports from surface stations.

Nuclear Test Control

On 5 January, the day that the East–West conference on nuclear tests resumed in Geneva, the United States announced that new data indicate that it is more difficult to identify underground explosions than had previously been believed. Immediately the *New York Times* published an article headed "Hopes Lessened for Atomic Curb." On 25 December the *Times* headline on the same subject had read "Test Ban Accord is Seen by Spring."

The text of the U.S. statement follows. It was prepared by the President's Science Advisory Committee with the concurrence of the Department of State, the Department of Defense, and the Atomic Energy Commission. The names of the seismologists responsible for the study that was the basis for this statement were not announced at the time the statement was released by the White House. No details were given.

"Since the Geneva conference of experts last summer, United States seismologists on behalf of the Government have continued to study all available data on the problem of detecting and identifying underground explosions, including new data obtained from the underground tests conducted in Nevada this past October. These studies and new data indicate that it is more difficult to identify underground explosions than had previously been believed.

"The Geneva conference of experts last summer concluded that, although it is not possible to identify an underground explosion by seismic means alone, it is possible to identify a large fraction of seismic events as natural earthquakes when the direction of first motion of the seismic signal is observed at several, appropriately located stations. This procedure reduces the number of seismic events which would be unidentified and could, therefore, be suspected of being underground tests.

"Analysis of all available seismic data on underground tests, including the data new since last summer, has shown that this method of distinguishing earthquakes from explosions is less effective than had been estimated by the Geneva conference of experts. These analyses and new data also indicate that the seismic signals produced by explosions are smaller than had been anticipated and that there are consequently about twice as many natural earthquakes equivalent to an underground explosion of a given field as had been estimated by the Geneva conference of experts.

"These two factors mean that there will be a substantial increase in the number of earthquakes that cannot be distinguished from underground nuclear explosions by seismic means alone. For example, the total number of unidentified seismic events with energy equivalents larger than five kilotons may be increased ten times or more over the number previously estimated for the system recommended by the Geneva conference of experts.

"The effect of this new analysis and data on the capabilities of the system recommended by the Geneva conference of experts, as well as modifications of that system which could restore its originally estimated capability against underground tests, are at present under study by United States scientists.

"The Department of State advises us that the results of this continuing analysis have been communicated to the United Kingdom and the Union of Soviet Socialist Republics delegations at the present Geneva conference on the discontinuance of nuclear weapon tests, and that the United States delegations will be prepared to discuss this information with experts of the other delegations. This will assure that all the parties at the present Geneva conference have available the best scientific information and analysis in their consideration of the problem of detecting and identifying underground tests."

Soviet Solar Rocket

The rocket that the U.S.S.R. launched toward the moon on 2 January passed the moon on 4 January and went into orbit in an elliptical course around the sun on 7 January, according to reports from scientists in the Soviet Union. The Soviet news agency Tass reported that in its first 5 days of flight the rocket, which was moving 621,000 miles ahead of the earth, had traveled approximately 9 million miles from the point in space occupied by the earth at the time the rocket was fired. The earth, speeding along in orbit at 18.6 miles per second, traveled about 8,370,000 miles in the same period.

On 14 January the rocket reached its nearest point to the sun, about 91 million miles, and achieved its maximum speed of approximately 20 miles a second. At the most distant point in its recession from the sun, the vehicle's speed is expected to drop to some 17.34 miles a second. Soviet scientists predict that once every 5 years the rocket may come close enough to the earth to be visible with powerful telescopes.

The new planet is the last stage of a multistage space rocket. The stage weighed approximately 1½ tons without fuel. The combined weight of the instruments, together with the power sources and the container, amounted to 794 pounds. In addition to two radio transmitters, which went dead on 4 January when the rocket was 373,125 miles from the earth, the vehicle carried special equipment designed to produce a sodium cloud—an artificial comet. This comet was formed on 3 January and was visible for several minutes in the constellation Virgo. It was possible to photograph the comet with optical instruments equipped with light filters isolating the sodium line of the spectrum.

Population Genetics at Purdue

Purdue University has announced the establishment of the Population Genetics Institute to coordinate an expanding research program in population genetics. The major objective of the institute will be to investigate the effects of various mating systems under varying environmental conditions. In addition to theoretical studies, problems will be investigated experimentally with laboratory organisms such as *Drosophila, Tribolium,* and mice. Heretofore, population genetics work has been carried out in the departments of dairy and poultry science, the Purdue statistical and computing laboratory, the North Central States regional poultry breeding laboratory and the pioneering research laboratory for animal genetics, the Animal Husbandry Research Division, Agricultural Research Service, U.S. Department of Agriculture.

Facilities for the institute in Purdue's new Life Science Building will include offices, fully-equipped laboratories, and three specially designed controlled-climate chambers. The facilities of the statistical and computing laboratory, including a digital computer, will be used for expanding the theoretical or mathematical approach to problems of population genetics.

A. E. Bell, professor of poultry science, has been appointed chairman of the institute. Others from the Purdue staff named to the institute include V. L. Anderson, B. B. Bohren, S. C. King, W. H. Kyle, J. H. Martin, T. G. Martin, and H. E. McKean.

Report on Medical Education

American medical colleges had a record enrollment of 29,473 students in 1957–58. Sixty of the 85 operating medical schools reported major construction, costing $47 million, in the planning, beginning, or completion stages. Forty-nine

schools reported major developments and changes in administrative organization, methods of student selection, curriculum, and financing. An estimated $275 million was spent by the medical schools in 1957–58, an increase of 13 percent over the preceding year.

A total of 6861 physicians was graduated from the 78 approved 4-year schools in 1958, as compared with 6796 in 1957. (There are four 2-year schools of basic medical sciences and three newly developing schools that have provisional AMA approval.) A new record was established in 1957–58 for the number of entering freshmen—8030. The preceding year the number was 8014 and 10 years ago the number was 6487. Further, 1644 women were enrolled in medical school, and 355 were graduated in 1958.

These were among the many facts and figures in the 58th annual report on medical education by the American Medical Association's Council on Medical Education and Hospitals. The 90-page report appeared in a recent issue of the *Journal of the American Medical Association.*

News Briefs

On 9 February 1949, the U.S. Air Force School of Aviation Medicine will commemorate the 10th anniversary of the founding of the department (now division) of space medicine. On 9 February 1949, Major General Harry G. Armstrong, U.S. Air Force (MC), former commandant of the School of Aviation Medicine and a pioneer in aeromedical research, established the department, probably the first of its kind in the world. Armstrong and the four original members of the department will be present for the anniversary gathering, which will include discussions on space medicine and predictions for the next decade.

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Harvard University has announced that five professors will make a 2-week visit to Russia early in February as part of the Soviet–American exchange agreement. They will visit Leningrad University, which will in turn send five professors to Harvard for 2 weeks in late February or early March. The Harvard group includes one scientist, E. Bright Wilson, Jr., Theodore William Richards professor of chemistry.

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The American Institute of Physics has initiated a new service this month by publishing a booklet that lists assistantships and fellowships open to graduate students in physics in 1959–60. Physics department chairmen in institutions offering graduate work in physics report in the booklet the number of graduate assistantships and fellowships available in their departments, the stipends, the tuition payable if not included in the stipend, and the number of hours of service required per week. The booklet may be obtained from the AIP Placement Service, 335 E. 45 St., New York 17, N.Y.

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On 16 January the Engineers Joint Council cited the Westinghouse Educational Foundation and the Carnegie Institute of Technology for pioneering in encouraging young men and women to seek careers in engineering and science. This year observes the completion of 20 years of George Westinghouse Scholarships at Carnegie Institute. Each year since 1938, ten 4-year scholarships have been awarded to secondary school seniors selected from over 1000 applicants per year. The program is one of the earliest in industry-education cooperation.

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The Proceedings of the Royal Institution 21, Albemarle St., London, W.1., will be published three times a year in future instead of annually. The Proceedings contain accounts of the well-known Friday Evening Discourses, and one advantage of the new procedure will be that the Discourses will appear in print soon after their delivery. The Evening Discourses at the Royal Institution were started by Michael Faraday in 1826, and for more than 130 years they have maintained the highest standards of popular exposition. The Proceedings therefore contain authoritative accounts of research and learning, written for the nonspecialist and covering many branches of science and other subjects.

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The Atomic Energy Commission has announced the initial operation of the Special Power Excursion Reactor Test No. 3 (SPERT-III), a versatile research facility developed for studying nuclear reactor safety. Criticality was achieved on 19 December in the new plant, which is situated at the National Reactor Testing Station in Idaho.

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Amherst College has decided to experiment with a plan to give a year's "leave of absence" to students whose academic performance is not commensurate with their ability. A student judged capable of doing A or B work but getting C's could be asked to take a year off to make up his mind about the value of college. He would be allowed to return in good standing. No change is being made in the passing marks required to stay in school. The plan is expected to result in perhaps a dozen leaves of absence a year.

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A Committee on Education has been established by the Society of American Bacteriologists under the chairmanship of L. S. McClung, department of bacteriology, Indiana University. Included in the duties of the committee will be a revision of the society's brochure *A Career in Bacteriology,* investigation of the training in microbiology of teachers of elementary biology, preparation of experiments in microbiology suitable for use in introductory biology classes, and the listing of films in microbiology and of other teaching aids.

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The American Institute of Medical Climatology was organized in Philadelphia in late November. The institute is planning a program of research and education in all phases of the relationship between weather and human life. Twelve sections will implement the work of the institute. Charter members elected George M. Piersol as president; secretary is Igho H. Kornblueh, 1618 Allengrove St., Philadelphia 24, Pa.

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For the first time since 1950, the number of children born in the United States apparently decreased in 1958, according to estimates released by the U.S. Public Health Service. National Office of Vital Statistics records indicate that about 4,248,000 babies were born in 1958, a decline of 53,000, or 1 percent, from the record high set in 1957. Fewer marriages in 1957, when the marriage rate dropped 4 percent from the previous year, account for the estimated decrease.

Scientists in the News

HERBERT F. YORK has been appointed by President Eisenhower to the new position of director of defense research and engineering, Department of Defense. On 15 March 1958 York was appointed director of research, Advanced Research Projects Division of the Institute for Defense Analyses, and chief scientist of the Advanced Research Projects Agency of the Office of the Secretary of Defense. He has served on many governmental advisory committees, including the Air Force Scientific Advisory Board and the Army Scientific Advisory Board. He is a member of the President's Science Advisory Committee.

JAMES G. HILTON, an associate professor of pharmacology at the University of Mississippi Medical Center, has accepted an appointment as an associate professor of pharmacology at Marquette University School of Medicine.

RONALD BELL has joined Greer Hydraulics, Inc., Jamaica, N.Y., as senior research physicist. He will be engaged in research and developmental programs involving servo systems, transistorized circuitry, and other electromechanical devices. He was formerly associated with