$7.3 billion, the largest annual gain in a decade. Federal funds rose only 7% to $8.3 billion. Since 1960, company funding of research and development has grown 64%, while Federal funding has risen only 36%.

The full-time equivalent of 371 400 research and development scientists and engineers were employed in January 1967, a 5% gain over the previous year. This figure was more than double the number of such employees in January 1958. The aircraft and missile industry employed the greatest number, 27% of the total.

Compared with net sales, research and development spending in manufacturing companies represented 4.1% in 1966, off from 4.3% in 1965. The aircraft and missiles industry reported the highest ratio of research and development to net sales, a figure of 25.5%. Five industries spent 85% of the funds. Aircraft and missiles led with $5.4 billion, followed by electrical equipment and communication with $3.6 billion, chemicals with $1.5 billion, motor vehicles and transportation with $1.3 billion and machinery with $1.3 billion.

Two Universities Join Argonne Laboratory Group

Membership in the Argonne Universities Association has reached 30 with the addition of Pennsylvania State University and Southern Illinois University. The association, founded in 1965 to broaden the management base for the Argonne National Laboratory of the Atomic Energy Commission, formulates and approves laboratory programs and policies. The University of Chicago operates the Argonne facilities in accordance with policies established by AUA.

Peay University Offers New Program For Teachers

A special physics program for future high-school teachers is being offered this year at Austin Peay University in Clarksville, Tenn. The four-semester course is devoted to an examination of methods of presenting physics such as Harvard Project Physics and the Physical Sciences Study Committee Course, current ideas in physics and current laboratory procedures. A year of calculus and a year of introductory physics are required.

The program is designed to help alleviate the shortage of physics teach-

PHOTOS: CERN

EUROPEAN PHYSICAL SOCIETY comes into being as Denis van Berchem, rector of Geneva University, reads the formal proclamation. At left is Gilberto Bernadini, elected the first president during the meeting of the steering committee in September. At right is Etienne Valloton of the Swiss government. Each of the 18 national societies will pay approximately $1.30 per person as dues for the first 15 months; a sliding scale will apply to large societies.

NEW ERA OF COOPERATION. Bernard Gregory, director general of CERN, addresses the newly formed organization. From the left are Bernadini; Gregory; Josef M. Jauch of Geneva; Wolfgang Gentner of Heidelberg (hidden); Georges J. Bene of Geneva, elected vice-treasurer; and F. Janouch of Prague, vice-secretary. The group adopted a constitution that provides for an elected council and an executive committee to be drawn from the council; the first council will be installed during the society's scientific conference 8–12 April in Florence.

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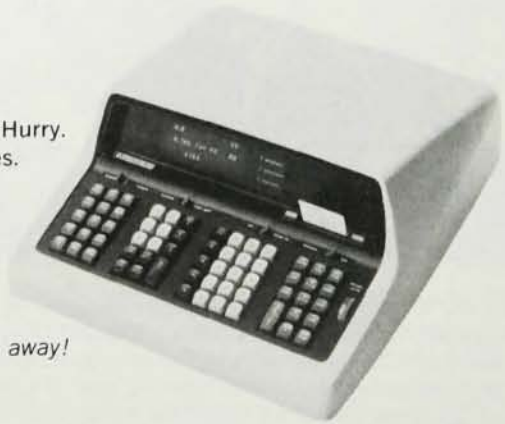

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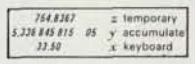

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ers by not requiring the prospective high-school teacher to take the same course as the prospective research physicist. Melburn R. Mayfield is department chairman.

NSF Finds US Science Policy Fragmented, Socially Oriented

In a study prepared for foreign audiences, the US is found to have a "constellation" of science policies rather than any single policy. At the same time an increasing emphasis on social problems is seen slowing down the growth rate of federal support for science and sparking a search for ways in which science can help achieve social goals.

The publication, *National Science Policies of the United States: Origin, Development and Present Status,* was prepared by the National Science Foundation at the request of UNESCO's Division of Science Policy. It is the tenth in a series of UNESCO studies of national and regional science policies. The report differs from the recent OECD analysis of US science in its increased emphasis on historical development, more detailed treatment of current issues, and inclusion of private and academic as well as governmental agencies. Copies are available from the UNESCO.

Oppenheimer Papers Deposited With the Library of Congress

A collection of about 75 000 papers and notes of J. Robert Oppenheimer has been donated to the Library of Congress by his widow. Letters, notebooks, manuscripts of speeches, articles and books, even subject files make up the collection. Some of the items go back to the early years of World War II, and the collection as a whole provides valuable glimpses into a quarter century of ferment in physics and world affairs.

There are letters to and from scientific leaders such as Niels Bohr, Albert Einstein, Edward U. Condon, David E. Lilienthal and with Presidents Roosevelt, Truman and Eisenhower. And there is correspondence with other notables: Felix Frankfurter, T. S. Eliot, Indira Gandhi, Dag Hammerskjöld, Pablo Casals. The collection includes tape recordings, among which is a three-hour discussion between Bohr and Oppenheimer in Denmark in 1958, and about 275 lectures, speeches and articles. One special group of papers deals with Oppenheimer's security hearings before the Atomic Energy Commission in 1954 and includes many drafts of material prepared by Oppenheimer and his wife to support his case, transcripts, clippings and versions of a European play about the hearings.

History Center Tape Records Interviews With Top Physicists

More than 200 hours of interviews with 56 leading physicists (and, in some cases, their families) have been recorded on tape by the Center for History and Philosophy of Physics. The oral history program is a supplement to the center's traditional written documentation of 20th-century physics.

Trained science historians conduct the interviews, covering the physicist's personal account of his own life and work and his recollection of events of special significance in the history of physics. Later both the interviewer and the subject correct transcriptions, which are deposited in the Niels Bohr Library at the American Institute of Physics in New York. Both transcripts and tape are available to qualified scholars for study in the library, subject only to any restrictions requested by the subject.

Altogether the oral history collection

IN BRIEF

A nonprofit information-retrieval center for industrial scientists and engineers has completed its first year of operation at the University of Connecticut. The New England Research Application Center scans 6000 publications a month for computer storage.

A joint master's-degree program has been established by Indiana State University and the Naval Ammunition Depot at Crane, Ind. Students spend alternate semesters (including summer terms) on campus at Terre Haute and at Crane, working there in either the quality-evaluation laboratory or the research and development department.

The National Science Foundation has published an analysis of student enrollment, sources of student support, and faculty and postdoctorals in graduate science departments for the years 1965 and 1966. The report is available from the Government Printing Office.

High Voltage Engineering has sold nuclear-physics research "packages" to the University of Massachusetts at Amherst and Indiana University of Pennsylvania at Indiana, Pa. The Amherst package includes a 400-keV accelerator; Indiana has bought a 2-MeV package.

A new film, "Atoms in the Marketplace: Nuclear Materials Safeguards and Management," may be borrowed without charge or bought from the Atomic Energy Commission.

A Permanent Magnet Users Association has been formed at the Franklin Institute in Philadelphia. The organization will supply and disseminate technical information in the permanent-magnet field. Information can be obtained from L. R. Moskowitz, executive director of the group, at the institute.

The National Science Foundation has given $880 000 to California Institute of Technology for research in stellar nuclear processes. The one-year grant provides for continuation of work formerly supported by the Office of Naval Research. William A. Fowler is supervising the study.

Air Force Cambridge Research Laboratories has let a $28 000 contract to the Lowell (Mass.) Technological Institute Research Foundation for design and construction of an ionospheric sounding system.

The *Journal of Composite Materials* is being published quarterly for Washington University and Monsanto in St Louis. It is devoted to "theoretical and experimental studies of the physical and structural properties of multiphase materials." Subscription details are available from Technomic Publishing Co, Inc, 750 Summer St., Stamford, Conn. 06902.

National Bureau of Standards has scheduled 13 measurement seminars and workshops, each lasting three to five days, between now and May. Most will be conducted at Gaithersburg or Boulder. The NBS Office of Technical Information and Publications has details.