cooperate closely. All publications received by the Engineering Societies Library are made available to the Engineering Index, Inc., which is housed in the same building. In the *Engineering Index* the Engineering Societies Library has a ready-made published index to articles in periodicals and other publications in the library. This unique arrangement is of great value to engineers and industry.

The *Engineering Index* reviews 1400 leading periodicals and society transactions, as well as a substantial number of bulletins and reports of government bureaus, research laboratories, technological institutes and colleges, and other agencies. Last year it provided annotated references to 27,000 articles. It provides a weekly card service in 255 subject divisions. Subscriptions may be placed for single subject divisions, for groups of divisions, or for the entire card service. The cost of the divisions ranges from $12 to $45 each, with a total cost of $1500 for the complete card service. Educational institutions receive a discount. The *Index* subsequently appears as a bound volume, cumulating all of the references for the year. The charge for this bound volume is $70.

This is an up-to-date indexing service, complete with descriptive annotations of the material indexed. Inasmuch as all indexed material is retained by the Engineering Societies Library, there need be no question about where to find the original of any articles indexed in the *Engineering Index*. The articles may be read at the Engineering Societies Library, which is open to anyone, or a photoprint or microfilm copy may be ordered.

In looking to the future, it appears that the cooperative information activities of the engineering societies, the library, and the *Index* will continue to grow. The American Institute of Chemical Engineers has recently become the fifth founder society. The United Engineering Trustees have acquired land for a new building near the United Nations in New York City. It is expected that other societies will join in the support of the Engineering Societies Library when the engineering societies move into the new United Engineering Center. The better facilities to be provided and the broader base of support and interest should lead to expanded and better information services for the engineering profession.

References

1. Eccles. 12: 12.
2. *Science* 1, 182 (1895).
3. I. A. Warheit, "Machines and systems for the modern library," *Spec. Libraries* 48, 357 (1957).
4. M. Taube, "Machine retrieval of information," *Library Trends* 5, 301 (1956).
5. R. R. Shaw, "Mechanical Storage, Handling, Retrieval and Supply of Information," *Advisory Group for Aeronautical Research and Development Rept. No. 50* (1956).
6. J. Rabinow, "Presently available tools for information retrieval," *Elec. Eng.* 77, 494 (1958).
7. M. L. Kastens, *Hearings before a Subcommittee of the Committee on Government Operations, United States Senate, 85th Congress, 2nd Session, on S.3126, May 2, 6, and 7, 1958* (1958), pt. 1, p. 138.

Bergen Davis, Experimental Physicist

Few of the many acquaintances of Bergen Davis, who died on 30 June 1958, ever realized the continual fight for health which he had to make, almost from the time of his birth in 1869. Too sickly to attend school regularly, he would have acquired a limited and haphazard education if, along with unusual will power, he had not also possessed a great fondness for reading. His remarkable memory for what he had read and observed, and a native curiosity to know what made things go, both served him in organizing his efforts to acquire a suitable education.

He was born near Whitehouse, New Jersey, on the farm which his Holland-Dutch ancestors had acquired from the Carteret grant in the 1730's. As a boy he was too frail to do more than the lightest of farm work. He attended a nearby district school, which contained the county library—for him a most fortunate arrangement.

During his teens he was compelled to be inactive while he strove to conquer tuberculosis. In this period he had access to good books, which he read so thoroughly that he thereby gained much that today is considered the basis of a liberal education. Few scientists of his day were as familiar as he was with the authoritative scientific articles in the family encyclopedia; even fewer maintained throughout life so wide and thorough a knowledge of Shakespeare and Gibbon.

The adequacy of his reading is shown by the fact that by 1891 he was able to enter Rutgers College, from which he graduated in 1896, after losing a year because he had to teach school to obtain funds to finish. His first position was with the School for the Deaf in New York City, where he taught a class of teen-age boys. However, his leisure time was spent in the physics laboratory of Columbia University, where he won the favorable attention of Ogden N. Rood and R. S. Woodward. This led to a fellowship at Columbia, where his dissertation on sound waves brought him a Ph.D. in 1901. The Tyndall Fellowship enabled him to study abroad for two years, first at Göttingen and then under J. J. Thomson in the Cavendish Laboratory in Cambridge. The second year was especially stimulating, for it was spent in the company of an unusual group of scholars, Rutherford among them.

Davis returned to Columbia in 1903, initiating a new era in research in physics there. The laboratory in which he worked was referred to by the graduate students as "the little Cavendish." Here he began his investigations on electrical discharges *in vacuo,* a field which naturally led to the series of papers on x-rays which distinguished his career. His studies of the energy in the x-ray spectrum and his development of the double x-ray spectrometer were outstanding achievements.

Yet his entire academic life, from the time he entered college until his retirement from his Columbia professorship, was interrupted at numerous intervals by the need to fight disease and regain strength. That he was able to win many honors, among them the chairmanship of Section B of the American Association for the Advancement of Science in 1932, the award of the medal of the Research Corporation in 1929, and election

to the National Academy of Sciences, also in 1929, indicates something of the fiber of the man.

Perhaps his determination to overcome obstacles would not have been so effective if he had not had another trait of great importance to a scholar, particularly to one interested in experimental physics. His imagination was very active, so lively that he often felt that it should be held in check. He had acquired by himself the usual mathematical equipment, through the calculus, but he frequently wished that his training in analysis had been more extended. However, his innate curiosity and his own way of looking at things made up to a considerable degree for any deficiency.

He may have been impatient at times, even abrupt on occasion, yet students and friends found him generous and stimulating. With all his cares, Bergen Davis nevertheless showed a ready sense of humor and a passion for freedom of thought.

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News of Science

Visiting Research Scientist Program Brings Top Foreign Postdoctoral Scientists to U.S.

Approximately 150 young foreign scientists, all drawn from the highest levels of scientific activity in their respective countries, have begun arriving in the United States for periods of study ranging from 1 to 2 years. The visiting researchers, who come to this country under a program initiated and funded by the International Cooperation Administration, are placed in the proper university and government laboratories by the National Academy of Sciences, which administers the program.

As originally conceived in 1953, the Visiting Research Scientist Program was restricted to the 14 European countries which were members of the Organization for European Economic Cooperation. At that time the program was also viewed as a temporary one, designed to facilitate the flow of scientific and technological information between the United States and the OEEC member countries.

Continuation and Expansion

At the time that the original program, with its limited geographical and temporal ranges, was drawing to an end, the post of director of the International Cooperation Administration was assumed by James H. Smith, Jr., a former assistant secretary of Navy. Smith, feeling that the program, which had been well received in Europe, should not be ended, asked the president of the National Academy of Sciences, Detlev W. Bronk, to consider its continuation and expansion. In making this decision the ICA director had in mind the need to offset the stress put on the purely military applications of science and technology by the accomplishments of the Russian satellite program, the need to improve communication and cooperation between American and foreign scientists, and the need of this country's scientists for the particular abilities and knowledge of many foreign researchers.

Role of the Academy

After the decision to continue and expand the Visiting Research Scientist Program, the National Academy of Sciences, through its Office of Scientific Personnel, began the work necessary to its administration. The original European program had had as a basic policy an arrangement whereby the selection of candidates rested entirely in the hands of the major scientific body, whether academy of science, research council, or the equivalent, in each of the 14 countries concerned. The memberships of these groups would nominate candidates of high qualification that were known to them as the best young scientific talent their country could call upon. These candidates were then accepted by the National Academy of Sciences in a number commensurate with the funds available from ICA. Almost all nominees who could, on practical grounds, avail themselves of the opportunity did in fact come to this country. This equation of the number of nominees to the number of grants reflects the fact that there is no plethora of researchers with the high qualifications required by the program.

The selection policy used in the original phase of the program has been maintained in the new phase. But, whereas the European countries all had an established scientific body which could administer the nomination process, many of the nations in the expanded program, which now includes approximately 44 separate states, did not have such well defined scientific associations. To solve this problem five members of the academy made numerous trips to arrange for local sponsorship of the program. Where no established organization was available, arrangements were made with the universities to nominate qualified persons. Again, as in Europe, the program was well received, and the men and women now arriving in this country are evidence of its success.

Students

To date, since the inception of the program in 1954, about 225 foreign students have studied in the United States. To this number, the 150 now arriving must be added. Their main common characteristic, which was essential to their selection by their respective nominating groups, is their demonstrated ability to carry on their own research projects. They come from the universities, the government scientific facilities, and in a few cases the industrial laboratories of their home countries. Almost all of them have an assured position to which they can return after their study period here. Although the program was primarily set up with a 1-year duration for each grant, most of the grantees avail themselves of the 1-year extension possibility that is offered. By the fact that almost every nominee has received his doctorate before coming to this country, and has, therefore, most usually, acquired a working knowledge of one or two foreign languages, language difficulties are not a major problem. In addition to the initial help and orientation they receive from the members of the academy's staff, the visiting researchers can count on the general hospitality of the Americans they encounter and the particular help and friendship of their colleagues at the universities and laboratories in which they do their research.

The grant from the ICA covers travel expenses for the nominee and his family, and gives a per diem allowance of $10.50, with an additional $1 per day allowed for each member of the family. The research projects undertaken are of such a nature that they do not follow the normal academic year but rather constitute a full year's or two years' work.