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Miscellany

The Test Talks

The meeting in Geneva of Western and Soviet bloc scientists to consider methods for detecting nuclear weapons tests got off to a shaky start on July 1. It even appeared uncertain during the last days of June whether the Soviet delegation would show up at all, and the conference had been under way for little more than a week before it seemed on the verge of being terminated following another Soviet demand that the US agree to a test ban in advance of the conference results. It has been the Soviet view that without an agreement to discontinue tests the technical talks would be a waste of time, whereas the Western position has been that the purpose of the technical discussions should be to determine first of all whether such an agreement could feasibly be enforced. While it is unlikely that conversations among scientists could be expected to have much part in resolving so political a dilemma, the fact that the talks were permitted to take place has encouraged speculation that a precedent has been set that may pave the way for further direct negotiations on technical aspects of East-West differences.

Many of those named by the various governments to participate in the talks are physicists. The list of Western delegates consisted of James B. Fisk (Bell Telephone Laboratories), Robert F. Bacher (California Institute of Technology), Ernest O. Lawrence (University of California), Sir John Cockcroft and Sir William Penney (British Atomic Energy Authority), Yves Rocard (French Atomic Energy Agency), and Omond M. Solandt (Canada). In addition, the following were among those named to go to Geneva as advisers to the Western delegation: Hans Bethe (Cornell University), Carson Mark (Los Alamos Scientific Laboratory), Harold Brown (University of California), and Anthony Turkevich (University of Chicago). The Soviet bloc delegation, consisting of scientists from the USSR, Poland, Czechoslovakia, and Rumania, was headed by Y. K. Fedorov and included N. N. Semenov, I. E. Tamm, and H. Hulubei.

Publications

A world center for revision of *Chemische Kristallographie*, a valuable but by now outmoded compilation of data on the chemistry and physics of crystals issued a half-century ago by the German crystallographer Paul Heinrich Ritter von Groth, has been established at the Pennsylvania State University. The new center, known as the Groth Institute, is located in the University's

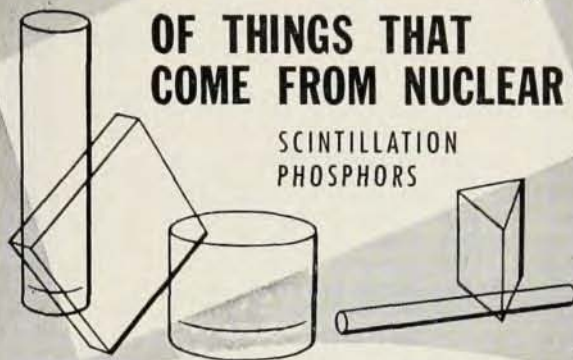
College of Chemistry and Physics and is under the direction of Ray Pepinsky, research professor of physics and director of the X-Ray and Crystal Structure Laboratory. John A. Sauer, head of the Department of Physics, is serving as the University's administrative representative in the Institute. Groth's encyclopedia of crystal properties, dating from the period 1906-19, describes some 7500 crystalline species in terms of the measurements and techniques used in the early part of the century, but having been conceived before the discovery of x-ray diffraction and crystal structure analysis it contains little information relating crystal structures and chemical and physical properties. The subsequent accumulation of data resulting from the development of entirely new types of physical measurements and the discovery of compounds unknown in Groth's time require a major revision of the work that will involve a far more extensive set of descriptions of perhaps as many as one hundred thousand crystalline species. The new compilation, to be entitled *Groth's Encyclopedia of Chemical and Physical Crystallography, Revised Edition*, will attempt to include all available chemical, physical, and structural data (or references to data) on single crystals, as well as some information on polycrystalline materials. High-speed computing machines and punched-card recording, storage, and handling of abstracted data will be employed in the project. Prof. Pepinsky is editor-in-chief of the proposed encyclopedia and Vladimir Vand, an authority on computer programming who is currently in charge of the data-handling work, is an associate editor. The editorial board will consist of leading chemists, physicists, and other scientists from all parts of the world. Plans for the new collation have been under consideration for some years and have been discussed at a number of meetings here and abroad, including a special conference that was held at Penn State in April under the sponsorship of the Solid-State Sciences Division of the Air Force Office of Scientific Research, which has encouraged development of the program from its inception.

A second, completely revised edition of BNL-325, *Neutron Cross Sections*, has been prepared at the Brookhaven National Laboratory. BNL-325, successor to the compilation AECU 2040, was originally prepared for the first International Conference on the Peaceful Uses of Atomic Energy at Geneva in 1955. Since then, it has been widely distributed by the Superintendent of Documents and has become the standard reference handbook of neutron cross sections. The second edition of BNL-325 (by Donald J. Hughes and Robert B. Schwartz, 373 pp., \$4.50) will be available at the second International Conference in Geneva this September and will be put on sale by the Government Printing Office at the same time. Of interest to reactor specialists and nuclear physicists alike, this second edition of BNL-325 contains carefully evaluated data on thermal cross sections and resonance parameters, as well as curves of partial and total cross sections as functions

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Programs and Facilities

On April 23rd, in connection with the 100th anniversary of Max Planck's birth, the Quantum Chemistry Group of Uppsala University in Sweden formally inaugurated a new quantum chemistry laboratory and its associated electronic computer—the "Quantatron". The laboratory, which consists of a machine hall and 15 rooms for theoretical research, is situated in a private house close to the main building of the University. The "Quantatron" is actually an Alwac III-E with 8192-word drum memory (produced by Logistics Research Corp. of Redondo Beach, Calif.) which has been slightly rebuilt to make it better adapted to its present use. The ceremony was attended by 50 representatives of Swedish and Scandinavian universities and research organizations. The US was represented by William Cochran of the American Embassy, Cultural Attaché Lawrence O. Carlson, and a five-man delegation from the European Office of the Air Research and Development Command (Brussels) headed by its deputy commander, Col. R. E. Nelson. The Quantum Chemistry Group has had a number of foreign scientists on its staff—including Harrison Shull of the University of Indiana and M. A. Melvin of Florida State University—and has been visited from time to time by physicists and chemists from the US and elsewhere. The group's director of research is Per-Olov Löwdin. It is sponsored by "King Gustaf VI Adolf's 70-year Fund for Swedish Culture", the Knut and Alice Wallenberg Foundation, the Swedish Natural Science Research Council, Uppsala University, the Aeronautical Research Laboratory, Wright Air Development Center (through the European Office of ARDC), and the Texas-Swedish Cultural Foundation.

Stevens Institute of Technology, Hoboken, N. J., will expand its educational program this fall to include a new four-year curriculum in mathematics and the physical sciences for undergraduates. Leading to a BS degree, the curriculum will include such topics as atomic physics, geophysics, and physical chemistry.

Atomics International, a division of North American Aviation, Inc., intends to construct a \$2 million remote handling facility near Los Angeles for the study of radioactive reactor components. Scheduled for completion next spring, the facility will include four hot cells, a mock-up area for simulating hot-cell operations, and laboratory and office space.

Aeronutronic Systems, Inc., a subsidiary of Ford Motor Company, is constructing a new computer development building at its aeronautics laboratory site near Newport Beach, Calif. It is expected to be in operation next summer and will be equipped for research, development, and manufacture of special purpose military and commercial computers.