trated on that plan all the possible knowledge and brain squeezing which had gone on in my mind not for weeks, but for years before. All of this was taken away from me. I should offer the other cheek?"

Piccioni argues that although it is commonly believed that the Bevatron was built for producing antiprotrons, it was primarily built to produce mesons in large quantities; the energy was stretched to 6 GeV in case it was possible to observe the antiproton. To justify this argument, he notes that it would be difficult to find, prior to 1954, any theoretical estimate of the cross section of antiproton production at the Bevatron the way people write papers today about production of the W particle at the National Accelerator Laboratory.

Addressing himself to the issue of "what people will say" about his intentions and methods, Piccioni wrote: "I think it's high time that physicists understand that the basic rules of morality are not for them to create, because they have been already created and experimented by the rest of humanity, which by and large is not made of lower level animals than physicists. I believe that after a moment of shock, many people will come to understand that I am right and I have the right of asking for justice."

Wiegand. Despite the unwillingness of Segrè and Chamberlain to comment, their coauthors on the antiproton paper were willing to talk with us. Wiegand, who is still at Berkeley, said that, although he can understand Piccioni's feelings, and even though he and Ypsilantis shared equally in the work of the antiproton experiment itself but not in the recognition thereof, he does not want to take sides in the present controversy.

"Like so many experiments, it sort of grew," Wiegand went on. He doubts whether the idea of using bending magnets in beams was new then, or for that matter, the time-of-flight technique either, but he has not done any research on this question.

Wiegand pointed out that few experiments, in physics or in any other science, are actually truly original. They are a culmination of many ideas. It just happened that the time was right for the antiproton experiment.

Ypsilantis, who is at CERN, recalls that the group had an hour-long conversation with Piccioni. But there may have been other things going on that he did not know about, he said, because he was not in on the inner workings of the group. It is difficult to say whether Piccioni contributed any basic ideas, Ypsilantis said, because most of the ideas were around. "It was a question of getting them to work."

The group never planned to look for the antiproton through its annihilation, Ypsilantis told us. "To say that to measure time of flight is the way to do it is to say that things fall down. It's an obvious way of doing it," he went on. The crucial part of the experimental design was their beta-resolving (or bandpass) Cerenkov counter, a counter that was sensitive to only a particular range of velocities. With this plus the time of flight it was possible to select out the antiprotons.

The next step in the dispute was scheduled to take place on 25 August, when the first confrontation between the lawyers and a judge will occur. GBL

Joint US–Soviet research to include energy production

Research programs for the US–Soviet agreement on scientific and technical cooperation will encompass energy production, computer applications in management, agriculture, water resources, microbiological synthesis, and basic and applied catalysis. This was announced by Presidential Science Adviser Edward David Jr on his return from talks with Soviet officials. While abroad, David also began negotiations for an agreement broadening US–Polish scientific work.

Exactly what form the US–Soviet cooperative research will take will be worked out at a meeting of the US–USSR Joint Commission on Science and Technology to be held next month in Washington.

Work in energy production will cover nuclear and thermonuclear energy, magnetohydrodynamics, solar energy and geothermal power.

High-energy physics, which was originally said to be scheduled for inclusion among the programs, will not be now. David said, "We can't investigate all of these areas at the same time, and the fact that we do have cooperation—good cooperation—in high-energy physics already led us to think that we should concentrate on some of these areas where we haven't done as much."

DAVID

The members of the US–Soviet joint commission are David; James B. Fisk, president of Bell Telephone Laboratories; Harvey Brooks, dean of the Harvard School of Engineering (representing the National Academy of Sciences); H. Guyford Stever, director of the National Science Foundation; Herman Pollack, US State Department; V. A. Kirillin, Chairman of the USSR State Committee for Science and Technology; M. D. Millionshchikov, Vice President of the USSR Academy of Sciences; V. A. Trapeznikov, First Deputy Chairman of the SCST; N. F. Krasnov, First Deputy Minister of Higher and Secondary Specialized Education and D. N. Pronskiy, of SCST.

Returning from Russia, David stopped in Poland and began negotiations toward a cooperative science agreement with the Poles. The agreement will provide a new framework for US–Polish cooperative research, which has increased nearly fourfold over the past two years. Until now scientific cooperation has been primarily in health and agriculture, but under the new agreement it will be expanded to include physics, astronomy, astrophysics, mathematics and geology as well as other fields. —SMH

NSF program will help 1973 eclipse observers

The National Science Foundation, the major coordinator of US activities for the 30 June 1973 total solar eclipse, is planning a program, "Logistic Support for the 1973 Solar Eclipse," to aid observers of the eclipse. For information about this program, write to the Solar Eclipse Coordinator, Office of National Centers and Facilities Operations, NSF, Washington, D. C. 20550. NSF's research divisions are also offering scientific support for research projects investigating specific solar eclipse phenomena. Inquiries concerning this support should be directed to the appropriate section of the NSF's Research Directorate. Proposals for both programs must be received by 15 September.

William Ellis becomes Maine Science Adviser

William N. Ellis, from the US Department of Commerce, recently became the Federal Science Adviser to the state of Maine. Authorized under the Intergovernmental Personnel Act of 1970, the post was created in response to President Nixon's call for a "new federalism." The act, which is administered by the US Civil Service Commission, provides for the exchange of government employees from one level

of government to another. Although there are presently 42 federal employees on assignment with state agencies and 25 state employees working in federal agencies, Ellis will be the first exchange in the area of science policy.

In his position, Ellis plans to work with the national scientific bodies to make their technical knowledge available to state and local governments. One proposal, which is now under consideration to accomplish this aim, requests the National Academy of Sciences to use Maine as a prototype in expanding the services the NAS renders to federal agencies and foreign countries to state administrations and legislatures.

Applications invited for East European travel

The National Academy of Sciences is inviting applications from American scientists wishing to visit the USSR, Bulgaria, Czechoslovakia, Hungary, Poland, Romania or Yugoslavia for varying periods during the 1973–74 academic year. Applicants must be US citizens and must have a doctoral degree or its equivalent in physics, biology, behavioral science, mathematics or engineering by the time of the intended visit.

The deadline for applications is 22 November; however preliminary inquiries by mail or telephone should reach the office of the NAS foreign secretary by 8 November. The address is: National Academy of Sciences, Office of the Foreign Secretary (USSR/EE), Washington, D.C. 20418.

in brief

The *American Institute of Physics Handbook*, edited by Dwight E. Gray and published by McGraw-Hill, is now available. Until 1 November the AIP member price is $39.50 and for others $49.50. After 1 November the price is $49.50 for all. Order from Emily Wolf, Manager Special Society Services, AIP, 335 E. 45 St., New York, N. Y. 10017.

The Princeton Particle Accelerator, headed by Milton G. White, was closed on 12 April and placed in a standby condition. Since the middle of 1971 PPA has been studying the physics and radiobiology of heavy ions for cancer therapy.

Nominations for the American Carbon Committee's George Skakel Memorial Award and the Charles E. Pettinos Award, each for $1000, must be received by 31 October. Nomination forms are available from P. L. Walker Jr, Department of Material Sciences, The Pennsylvania State University, University Park, Pa. 16802.

The General Advisory Committee to the US Atomic Energy Commission is soliciting nominations for the 1973 Ernest Orlando Lawrence Memorial Award. The award is presented to no more than five individuals in one year in amounts of not less than $5000 or more than $25 000. Nominations should be sent to the Chairman, General Advisory Committee, US Atomic Energy Commission, Washington, D. C. 20545 by 1 October.

1969–70 Oak Ridge Workshops for Faculty Administrators of Traditionally Negro Institutions, a report prepared by W. W. Grigorieff for Oak Ridge Associated Universities, is available free from: P.O. Box 117, Oak Ridge, Tennessee 37830.

the physics community

Margaret Burbidge elected AAS vice-president

E. Margaret Burbidge, director of the Royal Greenwich Observatory in Sussex, UK, has been elected vice-president of the American Astronomical Society. Bart J. Bok, formerly president-elect, has become president of AAS. Burbidge is an authority in observational astronomy and spectroscopy and is the first woman director of the Greenwich Observatory. Elected to the AAS Council were David Crawford, of Kitt Peak National Observatory, Frank Kerr of the University of Maryland and Sidney van den Bergh of the David Dunlap Observatory of the University of Toronto.

Experimenters wanted for astronomical satellite

NASA, the Science Research Council of the UK and the European Space Research Organization have issued a joint announcement of the opportunity for participation in the proposed astronomical satellite, International Ultraviolet Explorer (IUE). This satellite, which will be operated primarily for guest observers, is intended to secure spectroscopic data for a wide range of celestial objects over the spectral range of 1130 to 3360 Å with selectable nominal resolutions of either 0.15 Å or 6.5 Å.

Further information and copies of the announcement may be obtained from Albert Boggess, Code 672, Goddard Space Flight Center, Greenbelt, Md. 20771.

Program aids jobless in Massachusetts

The ATP (Association of Technical Professionals) Education Fund Inc, a nonprofit organization, has initiated a 6-month pilot program to reduce unemployment among technically trained people in Massachusetts by placing them in fields where they would not ordinarily have worked. Headed by Mike Kolker, the program was recently awarded a $36 000 contract by the Massachusetts Department of Commerce and Development.

The ATP Education Fund was formed by the Association of Technical Professionals—a coalition of scientists and engineers, both employed and unemployed, working together to improve their status and employment opportunities. For further information write to ATP, Box J, Wayland, Mass. 01778.

Sigma Pi Sigma chooses Shugart as president

Cecil G. Shugart is the newly elected president of Sigma Pi Sigma, the national physics honor society. He succeeds Donald J. Tendam of Purdue University who was elected president in 1970. Shugart became the first director of the Society of Physics Students when the group was formed through the union of AIP Student Sections and Sigma Pi Sigma in 1968. He left the Society of Physics Students in 1970 to become head of the physics department at Northeast Louisiana University and will continue there while Sigma Pi Sigma president.

After having taught college physics for several years, Shugart returned to graduate school at the University of Texas and received his PhD in 1968. □