the art of politics and most of the men and women who practice it, for they are usually as good as we let them be. It is their duty to hammer out and execute policy. This difficult task ought not be made worse by obliging them to work in the dark. . . ."

Warning that "the certain road to defeat is to waste time in needless conflict among ourselves," Sears urged his fellow-conservationists "to get the cards on the table so that each of us knows the problems of the other fellow." He maintained that "it is surely unjust to brand a man a criminal for polluting a stream while forgetting that the public, always anxious for new industries, has been inviting this practice for a century or more. And because an enterprise wishes to expand, it is wrong to assume offhand that its owners do not care whether they ruin an area or not."

He pointed out that "the industrialist, unless he is an utter fool, knows the value of attractive living conditions for his employees." Sears also commented that there are "tremendous possibilities" for good will and collaboration in each community "once the facts are clear."

## Thermal Cross Sections of Fissionable Isotopes

Recently declassified information was presented on the cross sections of the fissionable isotopes uranium-233, uranium-235, and plutonium-239 at the technical session, "Cross sections of fissionable elements," of the International Conference on the Peaceful Uses of Atomic Energy. Excellent agreement was obtained among participants from France, the United States, the United Kingdom, and the Soviet Union on values for these isotopes in the low-energy region. At the suggestion of the chairman, D. J. Hughes of Brookhaven National Laboratory, participants from the four countries met after the formal session to consider the thermal absorption and fission cross sections of these isotopes. It was decided to prepare a set of world average values for these cross sections, which could be used as a means for coordinating reactor calculations based on these cross sections. The average values are shown in Table 1. The quoted errors of the world average values given are based primarily on the spread in reported results and are sometimes larger than the errors of specific quoted results.

Table 1. International values for thermal cross sections of fissionable isotopes

| Isotope | $\sigma_{abs}$ (barns) | $\sigma_F$ (barns) |
|---|---|---|
| Uranium-233 | 593 ± 8 | 524 ± 8 |
| Uranium-235 | 698 ± 10 | 590 ± 15 |
| Plutonium-239 | 1032 ± 15 | 729 ± 15 |

## News Briefs

■ Ownership of outer space in connection with the proposed earth satellites has been brought up by John Cobb Cooper, authority on international air law. Cooper said recently in Montreal that agreement on how far the rights of all countries extend above the earth's surface should be reached before vehicles are sent 250 miles into outer space.

■ Discovery of a true radio star is described in the 13 Aug. issue of *Nature* by John D. Kraus, H. C. Ko, and D. V. Stoutenburg of Ohio State University.

This radio star, which is of stellar size, is located at the north boundary of the constellation Hydra, at a right ascension of 8 hours 19 minutes, and a declination of 7 degrees north. So far the astronomers have not been able to identify the radio star with any visible star, although there are several faint stars near the radio position.

■ The synthesis for the first time of cytisine, an extremely poisonous alkaloid, has been announced by E. E. Van Tamelen and John Baran of the University of Wisconsin chemistry department. Cytisine is so poisonous that it is of little practical value, but its synthesis will aid work on related substances that are useful to man.

Cytisine is one of the lupinanes. There exists in most lupinane molecules a unique, unsymmetrical, bridged structural system that various chemists have been attempting to reproduce for some years. Other alkaloids have been synthesized before, but never one of this type. In their synthesis, the investigators began with a simple coal-tar product, alpha-picoline; they built cytisine in 11 steps.

Cytisine is found naturally in certain leguminous plants, gorse, broom, and laburnum. Ancient peoples knew that these plants are extremely poisonous, and this quality very early aroused the curiosity of chemists, who isolated cytisine as early as 1865.

In the early 1930's two research groups, one led by H. R. Ing in England, the other by Ernst Spath in Austria, simultaneously worked out the chemical structure of cytisine, showing that it is one of the complex lupinanes. Van Tamelen and Baran began their work less than 2 years ago.

■ The American Institute of Physics, 57 E. 55 St., New York, will shortly commence publication of *Soviet Physics—JETP*, a periodical translation of research reports appearing in the Russian-language *Journal of Experimental and Theoretical Physics*. The National Science Foundation has granted funds to help finance the first year's operations. The editor will be Robert T. Beyer of the department of physics, Brown University, where the editorial office will be located.

The American Institute of Physics is the publisher of many of the American physics journals, for the institute is the cooperative agency of the American Physical Society, the Optical Society of America, the Acoustical Society of America, the American Association of Physics Teachers, and the Society of Rheology. The new journal will appear every 2 months, the first issue being scheduled for publication in October.

Beyer will be responsible for the assignment of each original article to a translator-physicist. Beyer himself reads Russian and is actively interested in the fields of acoustics, ultrasonics, and low-temperature physics. A survey that has been made indicates that enough Russian-reading physicists are available in the United States to translate all the contents of the Soviet journal.

An Advisory Board on Russian Translations has been appointed by the American Institute of Physics. The chairman is Elmer Hutchisson of Case Institute of Technology, who is also vice president of the abstracting board of the International Council of Scientific Unions, and other board members are Dwight E. Gray, chief of the Technical Information Division of the Library of Congress; Morton Hamermesh of Argonne National Laboratory; Vladimir Rojansky of Union College; and Victor F. Weisskopf of Massachusetts Institute of Technology.

## Scientists in the News

CHARLES W. SHILLING, former captain in the Medical Corps of the U.S. Navy, has been appointed special assistant to John C. Bugher, director of the Atomic Energy Commission's Division of Biology and Medicine. Shilling recently retired from the Navy after 28 years of service. He holds a B.S. degree from Taylor University, Upland, Ind., and a B.A. degree from the University of Michigan; he received an M.D. degree from the University of Michigan Medical School in 1927. He attended the Harvard School of Public Health in 1932–33, and in 1954 was awarded an honorary doctor of science degree from Taylor University.

After internship in the U.S. Naval Hospital, Chelsea, Mass., in 1927–28, Shilling was assigned to submarine training duty and to various submarine bases. He conducted research and development work in safety, salvage, and escape equipment for submarines as well as experimental work in physiology and biochemistry related to air and oxygen under high pressure. He became a qualified deep-sea diver and served aboard the U.S.S. *Cam-*