

the Department of Energy's Fusion Policy Advisory Committee (FPAC), a document which outlines some ambitious goals—namely, building a demonstration fusion power plant by 2025 and a commercial plant by 2040.

To reach this "reasonable and attainable" peak, FPAC says that the combined federal fusion budget must climb to \$1 billion a year in constant dollars (the current DOE fusion budget is just over \$480 million). To focus research better, FPAC recommends organizing DOE's efforts into a single Office of Fusion Energy that would oversee both magnetic and inertial confinement research into energy applications. "Pursuing both options at this time reduces the technical risk," the report states.

The FPAC also emphasizes the need for cooperation in efforts such as the International Thermonuclear Experimental Reactor project (ITER), a joint U.S.-European-Soviet-Japanese program. ITER is in the process of completing its "conceptual

design" phase. If the members reauthorize the program, ITER will proceed with a 5-year, \$1-billion "engineering design activity" phase that will produce a design for a working reactor.

Skepticism Urged on Soviet Psychiatry

Even as a delegation of Soviet psychiatrists and other officials arrived on 24 September for a 2-week tour to learn about U.S. psychiatry, Sovietologist Peter Reddaway of George Washington University was circulating an open letter warning that it would be premature to assume that the Soviet psychiatric establishment has put its own house in order.

Reddaway says reform within the Soviet Union has made little headway so far and notes that the 20-member delegation, headed by Yuri Reshetov of the Ministry of Foreign Affairs, is mostly made up of "establishment" figures. He sees as particularly ominous the fact that Marat Vartanyan, the psychia-

trist chiefly associated with alleged political abuses of psychiatry, is still riding high as director of the Soviet Union's primary mental health research center. Nonetheless, Reddaway says "pressures are building up" in support of the psychiatric reform movement within the country and there are a few positive signs of change: for example, G. Morozov, who with Vartanyan has been the most prominent among the old guard, has retired as director of the Serbsky Institute of Forensic Psychiatry; and the Soviets' new reform-minded Independent Psychiatric Association is now a member of the World Psychiatric Association (WPA).

How the rest of the world perceives progress in the Soviet Union will be crucial as the WPA prepares to decide whether the Soviet All-Union Society of Psychiatrists should be allowed to remain in that organization. The Soviets resigned from the WPA in 1984 under threat of expulsion, but were readmitted at the WPA meeting in Athens last October on the condition

that they clean up their act. A WPA delegation is to visit the U.S.S.R. early next year to see how they are doing.

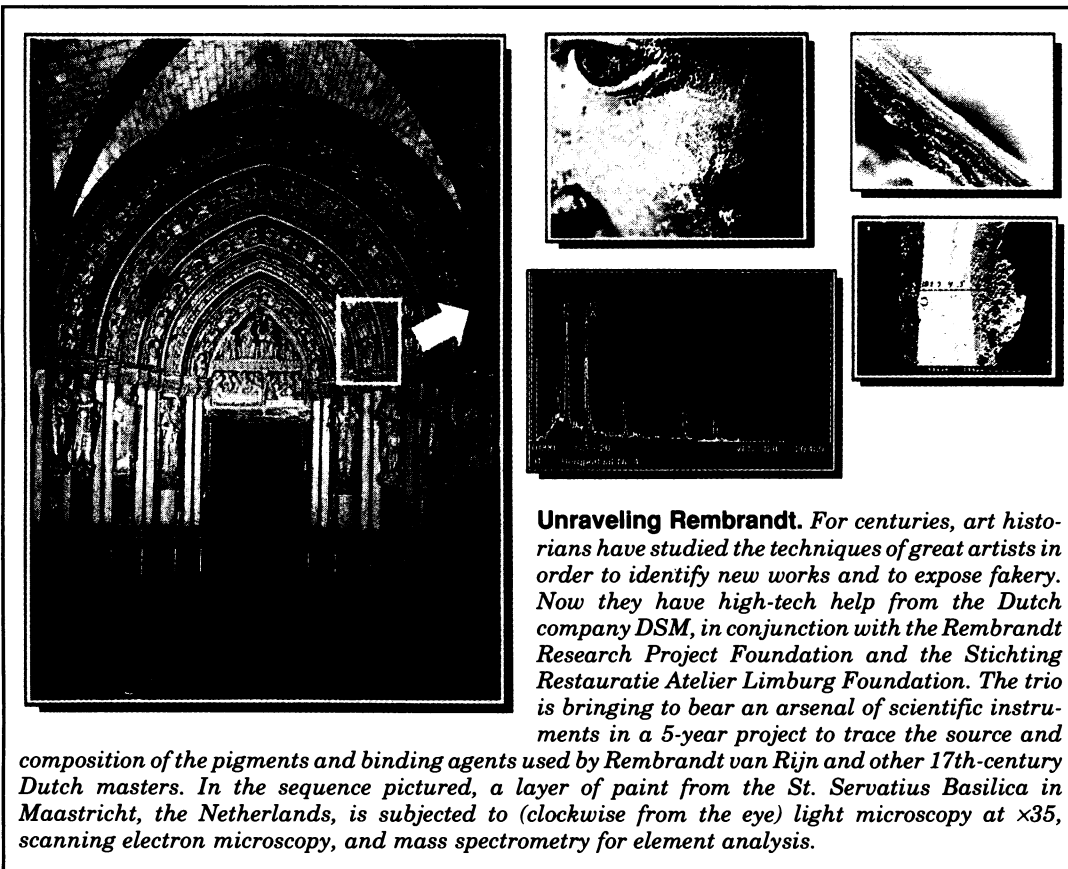
The current Soviet visit is part of an agreement that enabled American experts to make an unprecedented foray into the Soviet Union last year to investigate reports of psychiatric abuse (*Science*, 24 March 1989, p. 1547).

Demolishing the Layer Cake

The National Science Foundation calls it "perhaps the most far-reaching science education reform effort in the United States since the Sputnik era of the 1950s." That's the Scope, Sequence and Coordination (SS&C) program, an attempt to revolutionize high school science that has been spearheaded by the National Science Teachers Association (*Science*, 31 August, p. 978).

On 27 August the NSF announced five grants totaling \$8.6 million for SS&C, which was launched earlier with \$1.6 million from the Department of Education for programs conducted by the California Department of Education and Baylor College of Medicine. Three-year NSF grants of about \$1.4 million apiece are now going to California, Baylor, the University of Iowa, the University of North Carolina at Wilmington, and the University of Puerto Rico as well as to the NSTA which will be coordinating and assessing activities.

At a press conference held at NSF, NSTA executive director Bill Aldridge said the United States is "the only industrialized nation in the world" still hanging on to the despised "layer cake" approach which exposes high school students to only one science subject per year. SS&C programs will expose all students to all major branches of science every year. Luther Williams, NSF's new assistant director for education and human resources, said time spent in science courses could be increased up to 50%.



Unraveling Rembrandt. For centuries, art historians have studied the techniques of great artists in order to identify new works and to expose fakery. Now they have high-tech help from the Dutch company DSM, in conjunction with the Rembrandt Research Project Foundation and the Stichting Restauratie Atelier Limburg Foundation. The trio is bringing to bear an arsenal of scientific instruments in a 5-year project to trace the source and

composition of the pigments and binding agents used by Rembrandt van Rijn and other 17th-century Dutch masters. In the sequence pictured, a layer of paint from the St. Servatius Basilica in Maastricht, the Netherlands, is subjected to (clockwise from the eye) light microscopy at $\times 35$, scanning electron microscopy, and mass spectrometry for element analysis.