

NAS on Soviet Jewish scientists, religion in science texts

The issue of the Soviet Union's restrictions on the emigration of Soviet Jewish scientists came to the summit of American science last week. At a special meeting with six visiting high-level Soviet scientists, the Council of the National Academy of Sciences expressed strong disagreement over the high exit taxes imposed on Soviet Jews. The special closed council session was held on the first day of the Academy's fall meeting in Washington. Mstislav V. Keldysh, president of the Academy of Sciences of the U.S.S.R., was one of the six Soviet scientists present. The Soviet delegation was starting a 21-day visit in the United States.

Philip Handler, president of the NAS, said the debate between the council members and the Soviets was couched in general terms and confined to the issue of restrictions on "migration of scientists." Neither the words Jews nor Israel were mentioned, but, said Handler, "they knew what we were talking about."

In the same session, the U.S. and Soviet academies agreed to set up joint working groups to plan cooperation in oceanography and in geology and geophysics. They agreed to hold a bilateral symposium on membranes and cell surfaces and another on agriculture in arid lands.

Later in the week, on Keldysh's last day in Washington, Handler presented Keldysh a message from six Soviet Jewish scientists describing their plight. The message to Handler had been transmitted by telephone from Moscow Oct. 17 via David Korn, chairman of the Soviet Jewry Committee of the Jewish Community Council in Washington. The message said, in part:

"... They will not let us out because we are 'valuable specialists.' But are you aware that we ... were fired

from our jobs ... and forced to do manual labor; that we are deprived of the possibility of having learned papers published, the possibility of lecturing, barred from reporting at scientific seminars and conferences, deprived of all scientific contact and any other kind of scientific activity? These limitations have brought about our professional death. ... Our telephones have been cut off, correspondence never reaches us, our families are being both openly and secretly pressed by the authorities."

It called on Handler to discuss with Keldysh "the measures he can and should take to protect our basic human rights." An Academy spokesman said there was no formal response from Keldysh.

In its regular business session, the Academy passed a resolution bluntly criticizing a proposal before the California State Board of Education that would require all public-school science texts to give parallel treatment to the theory of evolution and the Biblical ideas of special creation.

"... The essential procedural foundations of science exclude appeal to supernatural causes as a concept not susceptible to validation by objective criteria," the resolution states. "... Religion and science are, therefore, separate and mutually exclusive realms of human thought whose presentation in the same context leads to misunderstanding of both scientific theory and religious belief. ... The proposed action will almost certainly impair the proper segregation of the teaching and understanding of science and religion nationwide.

"Therefore, we, the members of the National Academy of Sciences ... urge that public-school science texts be limited to the exposition of scientific matter."

Methadone addict: New class of drug abuser

Last week was Drug Abuse Prevention Week. President Nixon called it "an occasion to redouble our war against this enemy and to take stock of large victories won in a short time." Among the victories he mentioned was the mobilization of the full power of the Government to enforce the laws and "to pinch off opium and other drug sources all over the world." Ironically, many feel that the portion of the Administration's drug program given the most emphasis—the pinching off of opium and the billion-dollar expansion of the methadone maintenance system (SN: 4/8/72, p. 229)—may be doing as much harm as good by substituting methadone abuse for heroin abuse.

With nationwide heroin shortages developing, users are paying (and stealing) more to support their habits. Some are getting heroin by joining methadone programs and trading large amounts of that drug for small amounts of heroin. Drug pushers, in turn, sell the methadone to addicts or mix it with other drugs and sell it as heroin to unsuspecting or naive users.

In Washington, D.C., addicts are getting methadone (through programs or through the black market) and taking it with amphetamines to get a high. In the past two months there have been five of six overdose victims had a combination of these drugs in their systems.

The rationale behind methadone maintenance is that heroin addicts are neurologically susceptible and must continue to use narcotics in order to function. Methadone is an inexpensive synthetic narcotic that allegedly satisfies the craving for heroin and (in sufficiently large dosages) blocks its euphoric effects. The dangers of the drug, however, have long been known. A report in the *AMERICAN JOURNAL OF PSYCHIATRY* in 1949 stated that "subjects were unable to distinguish the effects of methadone from those of heroin. ... Methadone became the favorite drug of many of the patients who received it intravenously, and they requested it in preference to morphine, heroin or dilaudid when called for further experiments."

A special section on methadone maintenance in this October's *AJP* contains a report indicating that perhaps methadone is becoming a drug of choice among addicts. Robert S. Wep-

ner, Richard C. Stephens and Harold T. Conrad of the National Institute of Mental Health Clinical Research Center in Lexington, Ky., studied 336 civilly committed heroin addicts. Of them, 43 percent had used methadone illegally. Of the illegal users, 44 percent received the drug from their regular pusher and 37 percent from a methadone maintenance patient.

Most of these methadone abusers took the drug primarily as a substitute (to kick or modify their heroin habit or to avoid withdrawal), but one-third of them actually took methadone for its positive qualities (the desirability and length of the euphoria and the economic advantages). These reasons "indicate that there may be a significant number of addicts turning to illegal methadone as a drug of choice, thereby creating a new and important class of narcotic abuser."

A similar conclusion is reached by Andrew Weil in *The Natural Mind* (see p. 284). Weil's observations and experiences as a drug researcher at Harvard and NIMH have led him to believe that methadone is not the answer to heroin addiction. "In switching addicts to methadone," he says, "doctors are asking them to give up this experience [the heroin high] for

nothing in return—an unreasonable expectation.” Pinching off the supply of drugs, he says, is just as useless. Users, he explains, will simply find other substances to trigger their highs, just as marijuana smokers will resort to nutmeg when they are confined to prisons. Many spices and native plants can be used for this purpose and, in general, says Weil, “the substance people use when they are cut off from their usual drugs are more toxic than the ones they normally use. Our problems are people problems, not drug problems.”

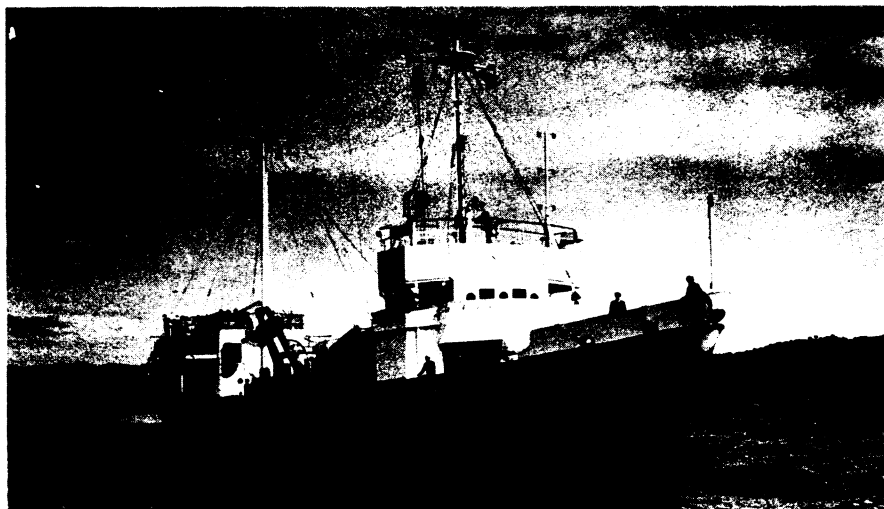
Marvin E. Perkins of the Westchester Community Mental Health Board in White Plains, N.Y., agrees. Methadone has presented new opportunities, he says, but its cheap, simple delivery system places emphasis on the drug and deemphasizes the longer-term psychological and rehabilitation factors. In an editorial following the *AJP* section on methadone, Perkins concludes that attention must be paid to a delivery system that provides for social and vocational rehabilitation. Without this, he says, “the patient is being asked to exchange the thrill of heroin for the thrall of methadone.” □

The voyage of the Vema: A view of the past

After two and a half years at sea, Columbia University's research ship *Vema* has returned to port. It was the *Vema*'s longest cruise—the 202-foot schooner circled the globe, traversing 125,000 miles of ocean—and, according to Manik Talwani, acting director of Columbia's Lamont-Doherty Geological Observatory, it was also her most fruitful.

Perhaps the cruise's most significant accomplishment was an extension of scientists' knowledge of the magnetic history of the earth. The record of reversals of the earth's magnetic field entombed in ocean floor rocks is widely used as a time scale for dating past events, such as changes in the rate or direction of sea-floor spreading. Before the *Vema*'s voyage, large sections of the period between 80 million and 180 million years ago were unknown, though some researchers have been able to fill in some of the pieces (SN: 11/27/71, p. 358). *Vema* scientists took magnetic measurements along the Pacific equator and have obtained a comprehensive record of the earth's magnetic history back to 160 million years ago.

Vema scientists also for the first time found evidence of continental slivers off the coasts of Norway and South Africa. Both are about 60 miles wide and 450 miles long. The *Vema* scientists believe these slivers probably broke off from the main continents during the early stages of opening of the oceans



Columbia Univ.

Columbia's Vema: Patterns of magnetic reversals, slivers of continental crust.

and then subsided thousands of feet below sea level. The Norwegian sliver seems to have broken away at least 200 million years ago, the South African about 110 million years ago. The sliver near Norway is now covered by thousands of feet of sediment, and forms a basin that may be a continuation of the North Sea basin. The scientists used seismic refraction profiles to identify the sunken crust as continental.

Over the two and a half years of the cruise, some 18 scientists, serving for periods ranging from a month to six months, have taken turns as chief scientist. The *Vema*, which now navigates by satellite, left New York in June 1970. She went first to the Norwegian and Greenland seas, then sailed south across the Atlantic, through the Caribbean and the Panama Canal and across the equatorial Pacific, the Japan Sea and the Indian Ocean. She then sailed up the Ivory Coast, past the Canary Islands up to Iceland and Nova Scotia, then back to New York. □

McGovern's position papers on science

After several months of labor, Scientists for George McGovern has given birth to the promised position papers on various facets of McGovern's science policy (SN: 8/26/72, p. 140).

The McGovern group reiterates that the policy in essence is to “redirect scientific priorities from military to civilian goals, expand Federal research and development to meet a broad range of human needs, to use science and technology to create new domestic programs and industries, . . . In short science would be allowed to work for mankind as never before.” To aid in the transition, McGovern has promised an immediate investment of \$10 billion to create new peacetime jobs for individuals whose jobs disappear as a result

of defense cuts. The group also notes that McGovern would reestablish the defunct State Technical Services Program to assist state and local governments in applying new technology.

A paper from the McGovern Panel on Science and Technology discusses the problem of encouraging industry to engage in civilian-oriented research and development. “It took 30 years and billions of taxpayer dollars to create our present military-industrial complex. Rapid transformation of our civilian sector into an R&D-intensive activity cannot be expected to take place spontaneously without at least temporary massive public intervention.” The panel names transportation and energy as the two top priority areas for government-financed research and development of “radically innovative systems.” The panel also emphasizes the need for greater support of basic research, even though immediate applications of the research may not be forthcoming. Exploration of the solar system, galactic astronomy, and the functioning of the brain are listed as areas of investigation “so fundamental to the satisfaction of the human urge to learn that we must not ask about concrete practical fallouts.”

In a statement on energy policy, McGovern promises an end to subsidies to energy industries and to “wasteful uses of energy,” revision of pricing structures where unit cost decreases as more is bought, strict antitrust enforcement in the energy industry and more public participation in government decision-making.

Background papers on unemployment among scientists and engineers and on meteorological warfare, plus McGovern's answers to questions from 12 professional engineering societies, complete the set. The McGovern science policy material has already been sent to over 5,000 regional organizers of the campaign. □