

Cosmonauts from Vietnam and India?

Vietnam and India may be among the next nations to send human beings into space, apparently as a result of attempts by the Soviet Union to shore up its position in its ongoing conflict with China.

An unspecified number of Vietnamese are already in training at the Yuri Gagarin Cosmonaut Training Center near Moscow, according to the Vietnam News Agency as reported last week by the Wall Street Journal. During a recent visit to the center, the agency said, former Vietnam defense minister Vo Nguyen Giap thanked the Soviets, then congratulated the Vietnamese on their training progress and "told them to strive for the fulfillment of their glorious mission." The agency also quoted the center's commander as calling the training "a practical contribution to the consolidation of Soviet-Vietnamese friendship." Moscow has been a staunch supporter of Vietnam in Hanoi's disputes with China.

The possibilities of cosmonauts from India are apparently at a much more preliminary stage, although the Soviet Union has launched a satellite for the Indian government. According to the Journal article, an Indian government spokesman has quoted Soviet foreign minister Andrei Gromyko as agreeing "to see if some Indians couldn't be trained in space travel." Gromyko made the remark, the article said, while he was in India in February "to lobby Indian support for the Soviet invasion of Afghanistan." India has long quarreled with China over various issues, including alleged interference in Afghanistan claimed to have helped provoke the Soviet invasion.

China, meanwhile, seems to have its own astronaut plans. January articles in the Chinese press, according to the Journal, described the country's astronaut-training program in detail. They also showed photos of a dog that had been sent into space and safely recovered, as well as of large missiles said to be capable of manned launches to orbit.

Europe opens inter-lab satellite link

On Sept. 13, 1977, the European Space Agency's first communications satellite was destroyed just after launching when its rocket exploded. Among the many experiments lost with the device, called Orbital Test Satellite 1 (OTS-1), was a plan to speed the transfer of high-energy physics data among several widely spread European laboratories. The high-speed link was desired because much of the data produced at CERN, western Europe's international physics laboratory, is often sent for analysis to facilities in other countries. Such computer-to-computer transfers face a bottleneck in Europe, where available landlines generally can handle no more than 32,000 bits of data per second, and researchers are often faced with the snail-paced recourse of simply sending the magnetic tapes through the mail. The new plan, called STELLA (Satellite Transmission Experiment Linking Laboratories), was to allow transmission rates as high as one million bits per second, amounting to nearly real-time transfer of the data.

This week, STELLA gets its chance. Making it possible is OTS-1's successor, OTS-2, which was launched on May 11, 1978, to a fixed position over the earth in a geostationary orbit. In the program, data from CERN's high-energy physics research in Geneva will be sent, via a specially constructed ground station, to the Rutherford Laboratory in Great Britain, DESY in West Germany, Pisa in Italy and Saclay in France. In addition, facilities in Dublin, Ireland, and Graz, Austria, will be linked with CERN for a test program to measure STELLA's efficiency in terms of propagation effects, error rates and the use of an experimental high-frequency (11-to-14-gigahertz) communications channel with which OTS-2 is equipped.

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FDA pilots survey on hypernutrition

Regarding nutrition, "We know quite a bit about deficiencies and very little about excesses. That's the real unknown," explains Henry Dymyza, director of the Food and Drug Administration's new department of clinical nutrition. As its first venture in exploring the unknown, Dymyza and colleagues have begun to survey "an entirely new phase in the history of nutrition" — megadosing with vitamins and dietary supplements.

There's a growing trend toward voluntary consumption of massive doses of vitamins, minerals and so-called health foods, Dymyza says, evidenced by a soaring growth in the market for those products. Industry surveys project that total market sales for those and related health-food-store products may reach \$2.4 billion by 1982.

Although several studies have documented the role a single vitamin or mineral may play in diet, rarely have studies involving humans surveyed the complex combinations of dietary supplements that people take without medical advice. In fact, tight restrictions on surveys involving human subjects would probably have precluded FDA's group ever being able to suggest that survey subjects use most of the dietary-supplement combinations voluntarily consumed by the current entrants because of the myriad unknown risks that might attend such mixing at the doses consumed — often orders of magnitude above the "recommended daily allowances," Dymyza said.

In the FDA survey, subjects record all food, liquids, drugs and dietary supplements they normally consume for a period of one week. At the end of the week, a physical exam and complex series of blood tests are given. Computer correlations of physical findings and dietary intake will seek to establish vitamin and mineral levels present in the body due to the supplements.

Dymyza stressed that the survey is not seeking to discourage use of supplements, just to assess changes — positive or negative — in general health patterns attendant with their use. But the most important value of this pilot study will be in pointing out future areas of focus to study under more controlled clinical conditions.

Caffeine and birth defects

Caffeine consumption has been linked with birth defects in preliminary tests on rats by Food and Drug Administration scientist Thomas Collins. Pregnant rats force-fed caffeine through tubes produced fetuses with missing digits. The exact amount of caffeine administered to the rats was not disclosed, but an FDA spokesman says it was not much more than the maximum a person could consume from caffeine-containing food, beverages and drugs. The FDA says the results so far do not warrant a warning to consumers, but recommends that pregnant women as a general precaution watch their diets and avoid drugs when possible. A further study is underway to examine the effects of caffeine supplied to rats in their drinking water.

Update on the news

- Last week the U.S. National Academy of Sciences suspended exchanges with the Soviets over the treatment of Andrei Sakharov. Now Canada's National Research Council is considering the same thing — but justifying an end to its 20 years of cooperation with the Soviets over their invasion of Afghanistan.
- Nine months after the runaway Mexican oil well began gushing (SN: 12/15/79, p. 405), its spillage has been dramatically cut.
- House and Senate conferees finally reached a compromise last week on the \$227 billion "windfall-profits tax" bill that would gobble 50 percent of industry revenues gained from oil-price decontrol. Congressional passage is expected this month.

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