

Russians have space link in mind

from Vera Rich

As the final preparations are made for the joint Apollo-Soyuz mission in July 1975, the Soviet space programme is continuing actively along its own individual course. In spite of the avowed cooperation on the international mission—with mutual understanding guaranteed by Russians speaking English and Americans speaking Russian, and a planned atmospheric pressure for the linked craft of 10 pounds per square inch (intermediate between the standard Soyuz atmospheric pressure and the Apollo pressure of 5 pounds per square inch pure oxygen), the Soviet planners, after last year's setbacks, seem to display a pardonable keenness to show their American colleagues what they can, if necessary, do alone.

Accordingly, the Soyuz 18-Salyut 4 mission, manned by two experienced cosmonauts Petr I. Klimuk and Vitalii I. Sevast'yanov, has embarked on a wide ranging programme of experiments, ranging from a complete testing of the Soyuz on-board systems to the

growing of vegetables in conditions of weightlessness, photographic and spectrographic observations of the Earth's surface (including the track of the Soviet Union's latest prestige engineering project—the Baikal-Amur railway), the recycling of atmospheric condensation, and "observations of the Sun, planets and stars in various ranges of the electromagnetic spectrum". Although Soviet press coverage is not noted for superlatives, the coverage of the current mission seems to have been deliberately low-key; the tone is one of business as usual, rather than heroic achievement. Although it is stressed that this mission is a routine part of the Soyuz-Salyut programme, it would surely be impossible for the Soviet space planners not to bear in mind the significance of the forthcoming international mission.

● The unmanned sector of the Soviet space programme is also proceeding well. In addition to the routine Kosmos launches, an unmanned lunar orbiter (Luna 22) was launched on May 29 and, on June 5, the French minisatellite MAS-2 was launched from the same carrier as the latest Soviet communications satellite of the Molniya 1 series. Most fortunately of all, the occurrence of a Venus window made it possible for

the latest Soviet Venus probe, Venera 9, to be launched on June 9. The plans for this mission have been announced only in the most general terms: "to continue scientific observations of the planet Venus and its ambient space" and, en route, "to investigate the physical characteristics of interplanetary space, in particular, to make measurements of the characteristics of the interplanetary magnetic fields, the solar wind and ultraviolet radiation". The successful soft landing of the previous Venus probe, Venera 8, would suggest, however, that a similar landing may be attempted on this occasion, particularly as the probe is scheduled to arrive in the vicinity of the planet in October, coinciding neatly with the postponed 250th anniversary celebrations of the Soviet Academy of Sciences.

● A new conservation programme for the Carpathians and sub-Carpathia is being introduced by the Academy of Sciences of the Ukrainian SSR, to restore the ecological balance destroyed by long term deforestation and "un-systematic use" of the alpine pastures. The project aims not only to extend the forest cover of the region by some 10–15% but also to select the species planted in order to ensure maximum use of the natural precipitation which, at some 1,600 mm a year, is among the highest in central Europe. Surveys have indicated that stands of different species retain precipitation to different extents—whereas beech will retain some 25%, Carpathian fir will retain up to 37% of the incident precipitation per hectare. Under the new scheme, the Carpathian forests, for centuries a major source of timber, and, with sheep-rearing, the staple industry of the area, are to be considered to be "significant hydrologically, rather than as raw materials".

● The new Soviet currency regulations, to be introduced in January 1976, are expected to strike particularly at the Jewish 'refusnik' scientists, dismissed from their academic posts after applying for exit visas for Israel. Under the new regulations, an additional state charge will be levied on all money transfers to the Soviet Union from abroad, in addition to the existing State Bank duty of 35%. Although this surcharge will, of course, affect all refusniks, who are often almost totally dependent on financial support from friends and relatives abroad, it is liable to be a special burden upon scientists, whose chances of emigration are considerably less than those of the average worker, and who, as members of the intelligentsia, are more likely to be selected as an example to discourage the rank-and-file of would-be emigrants. □

THE wrong professionals are leading the field of population science in the United States, according to the president of the World Population Society. Dr Charles M. Cargille, who is also assistant dean at the University of North Dakota's medical school thinks that demographers and obstetricians should be replaced by engineers—and he has proposed as much to the National Research Council.

Obstetricians make money delivering babies, he reasons, and therefore there would seem to be a clear conflict of interest when they turn their attentions to population science. And demographers, who have long been the real professionals in population science, gave no hint at their recent annual meeting that there might be a population problem.

Dr Cargille recently told the Canadian Association for the Club of Rome that, a real conceptual framework was lacking for population science, which is a discipline the objective of which is problem-solving. According to Dr Cargille demographers leave it to the politicians and have no idea what to do about the population problem. An effective solution is unlikely because of the inadequacy of the population "establishment", he said.

Not a single population project is to be found intramurally in the National

Institutes of Health, the institutional home of population science, and he proposed that responsibility for it should be transferred to a new agency. In addition, budgets for population science have been cut and its principal leaders have died, without new ones emerging.

But the chief reason for the deficiency is that 72–78% of the appropriate US funds have been siphoned off into basic reproductive biology since 1968. Dr Cargille called this a "mistake in public policy".

Population science, he considers, needs multi-billion dollar funding, and should be addressing itself to such questions as: What is the global population capacity? How will the collapse of populations from famines feed back to developed countries? How can we achieve stable population growth? Where does critical pollution occur?

Dr Cargille's sombre approach contrasted somewhat with that of Dr Leonard H. Shebeski, dean of the faculty of agriculture at the University of Manitoba, who told the same meeting that the present world food output could be tripled to provide food enough for at least 10,000 million people. But Dr Shebeski saw that there could be political objections to the full development of arable lands.

from David Spurgeon, Ottawa