

## Seminar contacts under pressure

from Vera Rich, London

THE increasing pressure on the remaining members of the Voronel Sunday seminars now seems to be spreading to their contacts throughout the Soviet Union. In Tbilisi, pressure is being exerted on the Goldshtein brothers, Isai (35) and Grigorii (42), both cyberneticists and both "refusniks" since 1971, when their applications to emigrate to Israel were rejected on the grounds of "security".

After they were refused their visas, the brothers were both dismissed from their posts at the Institute of Cybernetics of the Georgian Academy of Sciences. It is reported that the director of the institute admitted in a private conversation after their dismissal that neither brother had ever been connected with secret work but that he, the director, was "afraid".

The Goldshtein brothers have maintained close contacts with the members of the Moscow seminar, especially with Aleksandr Lunts and Viktor Brailovskii, who, since Voronel's departure for Israel, have been the leading organisers. The Goldshteins had planned to visit Lunts and Brailovskii at Passover, but were prevented from doing so by the authorities. After this attempt, they were taken to their local KGB offices, questioned about their activities and warned that their files would be handed over on April 7 to the State Prosecutor in preparation for a trial. It was also intimated that the



The Goldshteins: Isai (left), Elizaveta Bykova and Grigorii

charges against them would be linked with four other trials now being prepared in the USSR. Since Lunts and Brailovskii have already been threatened with legal proceedings, it is feared that they will be involved in these other trials.

The charge against the Goldshtein brothers falls within the category of an unpublished edict of the Presidium of the Supreme Soviet of 1972. It is alleged that since they were refused permission to go to Israel, they have been slandering the USSR, and that their activities threaten the security of the USSR—a charge which carries a maximum sentence of seven years in a strict regime labour camp.

So far, no charge has been preferred

against Elizaveta Bykova Goldshtein, the wife of Isai and, like him, a physicist. Since, however, she is the author of a survey of the problems and backgrounds of refusniks and the means used to intimidate them, which has recently reached the West through *samizdat* channels, it seems unlikely that she too could share the fate of her husband and brother-in-law.

In the week that physicist Evgenii Levich, who was associated with the Voronel seminar, was finally allowed to emigrate to Israel together with his brother, Aleksandr (an engineer), it seems ironic that two other brothers, also associated with the seminar group, should attract the renewed attentions of the KGB. □

"A major climatic change would force economic and social adjustments on a worldwide scale . . . it is not primarily the advance of a major ice sheet over our farms and cities that we must fear . . . rather, it is persistent changes of the temperature and rainfall in areas committed to agricultural use, changes in the frost content of Canadian and Siberian soils, and changes of ocean temperature in areas of high nutrient production . . . Our vulnerability to climatic change is seen to be all the more serious when we recognise that our present climate is in fact highly abnormal".

These sentiments will already be familiar to readers of *Nature*; now they come with the official blessing of the US National Academy of Sciences in a report, "Understanding Climatic Change—A program for action" prepared as part of the US contribution to the Global Atmospheric Research Program (GARP). There is little in the report that will be new to the serious student of climatic change, although a lengthy appendix surveying past

climates does pull together in one handy review a wealth of scattered information; but the Panel on Climatic Variation which has produced the report makes some far-reaching recommendations about the nature of future research:

- The immediate adoption and development of a coherent National Climatic Research Program to include
- A Climatic Data Analysis Program with the development of new climatic data-analysis facilities and
- A Climatic Index Monitoring Program to acquire the needed data with
- A Climatic Modelling and Applications Program to accelerate research on climatic variation.

The Panel sees these American efforts as best taking place within an international framework, and suggests that the period prior to 1980 "be used to develop additional scientific and technical manpower through the establishment and support of fellowships in appropriate areas of climatic research", and that the period 1980–2000 should be designated the "International

Climatic Decades" during which data should be gathered extensively on an internationally collaborative basis and regional climatic studies of anomalies of special interest carried out.

Apart from the rather leisurely time-scale mapped out (in view of the present world food situation and the changes in climate that have occurred in the past 25 years) the report is likely to be welcomed by all of those climatologists whose lonely warnings about the importance of climatic change are now provided with the seal of scientific respectability. The cost of the massive effort needed (massive by scientific standards, but small compared with, say, the development of a nuclear missile system) must make it doubtful whether a really effective programme will take place. That is in the hands of the politicians; but politicians outside the USA should also take note of this NAS report. They may decline to take appropriate action, but they cannot say any longer that they do not have the necessary information on which to base a course of action. *John Gribbin*