

US national security leakages

Academics mostly absolved

Washington

US universities have not done significant harm to US national security by the leakage of technical information. This is the conclusion of a report* by a panel of the US National Academy of Sciences (NAS) released last week. While agreeing with the government that the leakage of information is a "substantial and serious" problem, the panel says it could find no "specific evidence" in the secret material to which it had access that the academic community is responsible, for which reason controls should be very limited.

However, the members of the panel avoided direct criticism of the Reagan Administration, perhaps hoping that it will follow suggestions made in the report in balancing national security and scientific needs. The panel's findings have already been presented to Mr Caspar W. Weinberger, the Secretary of Defense, Mr Joseph Clark, the President's National Security Advisor and Dr George A. Keyworth, the President's Science Advisor.

The problem first arose in 1978 when the US intelligence community attempted to censor some mathematics papers having applications to cryptography. The most recent incident involved the forced withdrawal, by the Department of Defense, of more than 100 papers from a San Diego photo-optical society meeting. Two weeks ago, President Reagan said that if his Administration had gone "too far" in any particular case, "we will rectify that" (*Nature* 23 September, p.289, and 30 September p.383).

Although disputing the Administration's view on some points, the panel confirms that Soviet intelligence is trying harder to obtain sensitive information in fast-moving fields, such as electronics and software, from US universities, which it finds more vulnerable than US industry.

The panel, under the chairmanship of Dr Dale R. Corson, president emeritus of Cornell University, concluded that the two laws now invoked to dissuade scientists from publishing or presenting their work — the Export in Arms Regulations and the International Traffic in Arms Regulations — were unsuitable for controlling the scientific community. Corson said that they were developed for controlling the export of equipment. They are inappropriate for scientific work, he said, in which "the network of communication is so basic and so broad", in which people travel all over the world talk to each other, and give each other preprints, in which "graduate students talk to everybody." Instead, the committee recommended simple, practical and well understood control procedures that would not ordin-

arily inhibit scientists' rights of communication and publication.

As for the San Diego meeting, the panel found the government's procedures inappropriate, Corson said, although he would not comment on whether the papers should have been withdrawn.

The proper method of restricting information is the classification system, Corson explained, but it should be used only:

- if the technology is rapidly unfolding from basic research to applications;
- if it has direct military application;
- If it could give the Soviet Union a near-term military advantage; and
- if the United States is the only source of the information "or other friendly nations that could be the source have control systems as secure as ours".

The panel called on both the Department of Defense and the Office of Science and Technology Policy under Dr Keyworth to play a key role in formulating policy on scientific censorship. It also agreed with the

Administration's view that the net flow of information in US-Soviet exchanges favours the Soviet Union. But Corson warned that the United States received a great deal in return, including the basic concept of tokamak fusion reactors.

The report notes that the only documented abuses of open university research "almost always involved episodes in which visitor status was abused by Eastern bloc scientists". A visitor would study fields beyond the agreed area of study, or spend time in the library, apparently looking up information asked for in advance by Soviet intelligence and unrelated to the ostensible purpose of the visit.

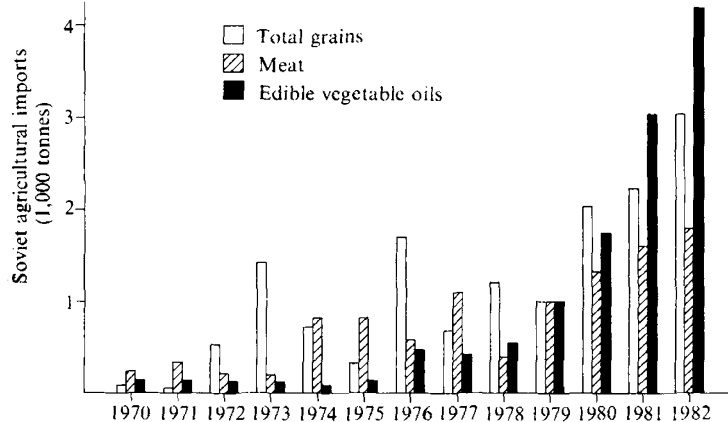
"A significant fraction of all Soviet scientific visitors are believed to have intelligence roles" the report says. "One should assume that almost all Soviet technical visitors to the United States are prebriefed about specific acquisition needs, and it is certain that Soviet visitors to other countries are required to report on their foreign experiences. There is evidence that the quality of their reports is a possible factor in decisions about their future travel applications".

Deborah Shapley

Soviet dependence on food imports

The Soviet Union's rapidly growing dependence on imports of food over the past four years reflects a serious deterioration in the Soviet agricultural system according to a study, *US and Soviet Agriculture: the Shifting Balance of Power*, by the Washington-based Worldwatch Institute. What had been a pattern of imports in bad years only (with production failure blamed on bad weather) has given way to a sustained and increasing reliance on imports.

Since 1978, Soviet production of grains, meat, milk, vegetables and sugar has actually declined, following decades of erratic but significant gains. The report blames the inability of central planning to keep up with the complex and shifting demands of modern, high-yield agriculture for machinery, fertilizer and chemicals. "The evolution of insect resistance shows little respect for the time-lags of Five-Year Plans." A neglect of marketing facilities is also partly to blame.



Soviet dependence on imports is mirrored by growing US dependence on export markets. Since 1972, exports of grain have grown from approximately 40 million tonnes per year to over 110 million. (The other chief grain exporters, Canada, Australia, Argentina and France, each export less than 25 million tonnes a year.)

Although less than 20 million tonnes of this year's US exports will go to the Soviet Union, the study says that without the increases in US exports in the past decade "there would not be nearly enough grain to meet all world import demands at current prices; and certainly not enough to support the growth in Soviet imports".

The report also suggests that Soviet reserves of hard currency may be the factor that limits Soviet food imports. And that, said Lester Brown, the author of the study, means that "US farmers have a greater stake in getting the [Soviet — Western Europe natural gas] pipeline built than almost anyone else".

Stephen Budiansky

*Scientific Communication and National Security, (National Academy Press, Washington DC, 1982).