

## Weapons control

# Pugwash latest

### Washington

The thirty-first Pugwash meeting on arms control and nuclear disarmament took place last week at Banff in Alberta, but for the first time in its 24-year history, the Pugwash movement had visa applications rejected for two scientists who had been invited to attend the meeting.

The Canadian government refused permission for two Soviet scientists, Dr Vladimir Paylichenko of the presidium of the Soviet Academy of Sciences, and Dr Vladimir Ustinov, described as a specialist in disarmament and the history of science, to attend the meeting.

No reasons were given by the government for its decision, apart from the statement that it had been made on the grounds of national security.

On the first day of its meeting, the Pugwash council issued a strongly worded protest against the exclusion of the two Soviet scientists, claiming that "the suspicion and distrust which existed in 1957 which our meetings have always tried to dispel still exist, even in a country as open, friendly and generous as Canada".

The statement said that the Pugwash movement had always considered it essential that it should enable people to meet who hold different opinions, come from different backgrounds, and have different experiences. "We regard the exclusion of individuals whose presence we have invited as a breach of this principle against which we most strongly protest."

The council also said that the Canadian government's decision "makes it clear that Pugwash meetings are more urgently needed than ever before if nuclear war is to be averted and peace secured". Following agreement on this statement, a telegram protesting at the decisions was also sent to Canada's Ministry of External Affairs by all members of the Canadian delegation at the meeting.

No action, however, was taken by the nine Soviet scientists who were already attending the meeting, and who continued to participate in the closed sessions.

At the end of the week-long meeting, the council endorsed a so-called "suffocation" strategy for limiting the spread of nuclear weapons that had first been proposed three years ago by Canadian prime minister Pierre Trudeau. Under this strategy, an immediate moratorium on the deployment of new weapons would be followed by agreements to limit weapons production and tests, a ban on all nuclear tests and a cutoff in the production of fissile material.

The statement said that the Soviet and US governments should "reaffirm their intention to maintain equal security at more stable and lower force levels". It also considered it essential that serious negotiations on limiting nuclear weapons in

Europe begin soon "before it is too late to set low limits", and in the context of moves that it said might destabilize the present balance of forces between East and West, suggested that highly accurate counter-strike missiles "are particularly dangerous since they create mutual fears of a first strike".

Soviet scientists at the meeting strongly denounced the United States for apparently dragging its feet over arms control negotiations. "The only obstacle on the way to arms control is the position of the United States," said Georgi A. Arbatov, director of the Soviet Institute for United States and Canadian Studies. The Soviet delegates resisted criticism of moves which had been taken by their own country.

One of the other proposals that the council agreed to support was for the United Nations to organize a global conference on international security. The council also advocated a "global approach" to the problem of future energy supplies and the potential conflicts that could arise over energy shortages.

"The general feeling is that it has been a very successful conference," said Mr William Epstein, the conference organizer and head of the Canadian delegation, adding that the refused visas had become "a relatively minor issue after a small flurry on the first day." **David Dickson**

## Forensic science

# Evidence upheld

Dr Colin Horncastle, the British forensic scientist who was taken off casework after publishing what has been described as a "farcical" and "archaic" paper on toxicology, last week lost his appeal against the ruling of an industrial tribunal. The tribunal had upheld the decision of Dr A. S. Curry, controller of the Forensic Science Service, to take Dr Horncastle off casework, ruling that the offer of a teaching post meant that he had not been effectively dismissed. The Employment Appeal Tribunal found last week that the original judgement had not erred on points of law.

Dr Horncastle's is one of three recent cases in which senior forensic scientists have been dismissed. Last week, the Home Office announced that Dr Alan Clift, a principal scientific officer with the West Midlands forensic service, is to be compulsorily retired "on grounds of limited efficiency". Dr Clift has given forensic evidence on at least one occasion which has led to a wrongful conviction. The third case concerns a police surgeon who was dismissed for giving evidence for the defence.

The Home Secretary has announced that all Dr Clift's cases since 1966 in which the defendant had pleaded not guilty but was convicted are to be reexamined. And there have been calls for a full inquiry into the running of the Forensic Science Service.

Forensic scientists themselves seem to be divided in their opinions.

The case of Dr Horncastle, who worked in Chepstow at one of seven regional forensic laboratories, began after a paper he had submitted in 1973 to the journal of the British Academy of Forensic Science, *Medicine, Science and the Law*, was published in 1977. Dr Alan Curry, with the advice of six toxicologists, considered that the paper cast doubt on Dr Horncastle's competence to give evidence in court and that it was the product of a deranged mind. Called "Toxicology: quantitative aspects" (Vol. 17, No. 1, p.37), the paper relates the drug content of organs to dose and estimates time of death using a simple law of linear diffusion. The data are scattered, leading the author to dwell on the uncertainties of forensic science.

Dr Horncastle was first moved from casework to research. But two years later, after a poor assessment of performance, a retirement board recommended that he be offered a teaching post, which he turned down last year in favour of voluntary retirement.

Dr Horncastle has argued that the paper he published in 1977 was very similar to a talk he delivered at the Forensic Science Service's Central Research Establishment at Aldermaston in 1969, which aroused no adverse comment even though Dr Curry was chairing the meeting. He also points out that in the years between writing and publication of the paper there had been no complaints about his work, and that he might never have been aware of the strength of opinion had he not taken his case to the Industrial Tribunal.

**Judy Redfearn**

## Air pollution control

# Indoor hazards

### Washington

The US research community seems to be on a collision course with the Reagan Administration over the need for further study of the health effects of indoor air pollution, ranging from radon emitted by building materials to the second-hand effects of cigarette smoke, and the formaldehyde used in foam insulation.

Mrs Anne Gorsuch, the new administrator of the Environmental Protection Agency (EPA), has apparently decided on major reductions in the agency's support for research into indoor air

pollutants in the 1982 fiscal year, which begins next month, and to eliminate the research programme the following year.

These decisions follow close on the heels of a report published by the National Academy of Sciences which claims that although indoor exposure can constitute an important fraction of the total exposure to many pollutants, it has been largely overlooked in research on the health effects of environmental pollutants. In some cases,

such as radon, the report says that there is an "urgent need" to study such health effects, since on the basis of known effects in miners exposed to radon and radon progeny at relatively high concentrations, "a plausible case can be made that a substantial fraction of the lung cancer incidence in non-smokers is due to the alpha-radiation dose to the respiratory tract epithelium from inhaled and deposited radon progeny particles".

The academy report, which was prepared for EPA by a committee of the National Research Council's board on toxicology and environmental health hazards, supports the conclusion of a report issued last year by the General Accounting Office, the investigatory arm of the US Congress, that indoor air pollution may pose a "potentially more serious health problem" than the degradation of outdoor air on which the federal government's clean-up efforts have so far been concentrated.

Other studies have reached a similar conclusion. A recent meeting of the public health committee of the New York Academy of Sciences reached a consensus view that "there are important and neglected disease consequences related to indoor air pollution" from causes that include viruses and bacteria, toxic gases, chemical radiation and particular matter.

The indications in Washington are that, far from increasing the budget for research into such effects, EPA and other agencies intend to cut back on research funds. Virtually all of EPA's present research into the potential effects of radon, for example, is being dropped.

Yet scientists with the General Electric Research and Development Center in Schenectady, New York, claim that there is "general recognition" by health physicists that the public receive greater exposure to radioactivity through "natural but controllable causes" in homes and other types of buildings than from the "hypothetical hazards associated with the generation of nuclear power".

The federal government has not ignored such warnings. For example, an inter-agency group set up two years ago to coordinate the work of the various agencies concerned with indoor air pollution published an inventory of present research in the field and the proceedings of a workshop on research needs, and is now working on an outline for future research priorities which may indicate how work should be distributed between the agencies.

Two obstacles stand in the way of such a plan. The first is an Administration zealously pursuing a desire to minimize the economic impact of health and environmental regulation. The second barrier is inter-agency tension caused by conflicting mandates. EPA, for example, estimates that the Department of Energy's programme for improving home insulation could cause between 10,000 and 20,000 additional lung cancer deaths a year due to

increased radon build-up. The department disputes these figures.

Such conflicts have inevitably created difficulties over research coordination. At one point, for example, the inter-agency committee was planning to suggest that EPA be appointed the principal agency for coordinating the federal attack on indoor air pollution.

However, this was apparently vetoed by the Office of Management and Budget, which was reluctant to commit the Administration to the substantial expenditures that an aggressive regulatory programme might entail, and sympathetic to the Department of Energy's arguments that it should be allowed to share lead-agency responsibilities.

The position of the new hierarchy at EPA on indoor air pollution research has yet to be officially revealed. Last month Representative Toby Moffett, chairman of the environment, energy and natural resources subcommittee of the House Committee on Government Operations, wrote to Mrs Gorsuch asking for details of the agency's plans and suggesting that, rather than cutting back, "EPA should instead be expanding its research effort".

No reply has yet been received from Mrs Gorsuch. **David Dickson**

### British Association

## Royal occasion

The 150th anniversary meeting of the British Association passed off decorously enough last week in the splendid architectural setting of the city of York. The Duke of Kent delivered a forthright defence of science against its critics in one of the loveliest of British cathedrals, York Minster. A symposium of distinguished academics surveyed the past 150 years in their own subjects with a little less sense of occasion than their written texts suggested would be appropriate (see *Nature* 3 September, p.13), half of them in the opulent academic setting of the University of York, increasingly regarded as a monument to the time when the cost of university education was regarded as no impediment to its indefinite expansion; a symposium of speakers with contrasting views held forth on the prospects of nuclear war in Europe; the association failed to come to a decision about the appointment of a secretary; and none of those among its members questioned knew why a 150th birthday party should be called a "sesquicentenary".

The Duke of Kent, a Yorkshireman by marriage but not on that account qualified to play cricket for the county of Yorkshire, surprised his audience by the zeal of his commitment to the cause of unfettered science. Imagine, he said to his audience, a world without electricity. Would we like that? Would we be any happier? So should we not take with a pinch of salt the siren calls of those who say that we would all be

## Ariane delayed

The fourth and final test flight of Ariane, the European Space Agency's rocket launcher, will probably be delayed beyond mid-November by a problem with its payload, the maritime communications satellite, Marecs. Mechanical interference between the satellite's antenna and body is causing passive inter-modulation of radio waves at high frequencies, according to British Aerospace, prime contractor for the satellite. The problem, not uncommon in telecommunications satellites, has apparently been solved under ambient conditions but tests still need to be done in a thermal vacuum chamber. The launch is now unlikely before early December. **Judy Redfearn**

more human if Faraday and Maxwell had never lived? Some asked themselves who the Royal Duke was getting at; everybody agreed that it was good stirring stuff — stuff calculated to help them endure the city of York's boxed lunch.

The nuclear symposium was, in its way, a daring innovation on the part of the association. Mr Edward Thompson, the historian, made an arresting speech on behalf of the cause of non-governmental efforts in support of European nuclear disarmament; Dr David Owen, Foreign Secretary in the previous British government and now one of the founders of the Social Democratic Party in the United Kingdom, came out in favour of a nuclear-free zone in central Europe. As has been the association's habit for the past 150 years, there was too little time for discussion by the time that every listed speaker had had his (*sic*) say.

Otherwise, the association provided for its members the usual miscellaneous range of conversational gambits. Did you know that there must be something wrong with the textbook explanations of geomorphism and phototropism (the phenomena by which plant roots grow down and supra-terrestrial parts of plants grow towards the Sun respectively)? Did you know that not everybody accepts the cataclysmic explanation of the transition from the Cretaceous to the Tertiary? With a whole day given over to the formal birthday celebrations, it is perhaps no wonder that some members were disappointed that there had been so little into which to sink their teeth.

The higher politics of the association are increasingly unbelievable. On occasions such as the annual meeting, members of several tiers of committees have a chance to say what they think should happen to the association. Their outstanding problem is the appointment of a secretary, essentially their chief executive officer. Apparently, not decision has been reached except that, if a suitable candidate "comes along", he (or she) will be appointed.