

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 particulate 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.