IN BRIEF

SRC appointment

It is now widely believed that the next chairman of the Science Research Council will be Professor Geoffrey Allen, who will succeed Sir Sam Edwards in October. Professor Allen, 48, is at present at the Department of Chemical Technology, Imperial College, and was until 1975 Professor of Chemical Physics at Manchester University; his interests are largely in polymer science. He has done considerable committee work for SRC, where there seems to be general satisfaction at the prospect of his appointment.

Delaney Amendment review

The recently announced ban on the artificial sweetener saccharin in the United States and Canada has prompted a major review of an uncompromising provision in the food and drug law which forbids the use in food of any substance found to cause cancer in test animals. Known as the Delaney Amendment, the clause has long been a target of attacks by the food industry. It has been staunchly defended by many scientists and consumer groups as a prudent measure to keep carcinogens out of the food supply. Within days of the announcement of the proposed ban, a score of bills calling for repeal of the amendment was introduced into Congress, and last week the Secretary of Health, Education and Welfare, Joseph Califano, announced a review of the Amendment's workings.

RANN resignation

The Director of the National Science Foundation's major programme of Research Applied to National Needs (RANN), Alfred J. Eggers, has asked to be relieved of his duties at the end of June to devote more time to studying problems affecting the growth and health of society. Eggers, who has steered the $70 million RANN programme through a minefield of Congressional criticism in the past few years, offered his resignation in a lugubriously worded memorandum suggesting that "in the largest sense of our future activities with our natural resources in our environment, it may well be that in important respects we are entering a 'zero sum game' ".

Fast breeder wanted

The Highlands and Islands Development Board in Scotland would welcome with open arms the commercial fast breeder reactor (CFR) at Dounreay. At a one-day meeting in Glasgow last week that coincided with the closing-down ceremonies on the Dounreay Fast Reactor (DFR), Professor Kenneth Alexander, who chairs the development board, pointedly observed that the number of employees at Dounreay would rise to 4,500 if the CFR were built there but would sink to 500 if it were not.

Pas de Concorde

THOMAS H. JUKES

A DISPUTE is now raging over permission for landing the Concorde in New York Kennedy Airport. Some of my friends in England and in France tell me that they regard the American prohibition of Concorde landings as an insufferable discrimination. They point to numerous violations of environmental safeguards in the USA, to the concerted din of jetliners taking off in droves from American airports, and to the sonic booms of American military jets. The French say that the American objection to the Concorde is based on the 'PFI' doctrine (pas fait ici).

Against these protestations, I point out to them that the supersonic transport (SST) has become a dominant symbol (and a convenient three letter slogan) to American environmentalists; a tangible epitome of technology run wild beyond the bounds of necessity or justifiability. The noise made by Concorde is said to disturb the mating process of wild birds, a ritual that has taken on an almost sacred significance ever since Julian Huxley published his fascinating observations on the sexual foreplay of Great Northern Divers. Environmentalists point to the Concorde as being wasteful of fuel and as being used only by very wealthy people. The needle-like Concorde is said to threaten the delicate ozone layer, which we have come to regard as being like a fragile soap bubble that envelops our atmosphere, protecting us from skin cancer caused by ultraviolet rays from the sun.

In addition to this injurious effect, however, ultraviolet radiation has a needed role of preventing rickets by its nutritional action. To achieve normal calcium metabolism, most mammals and birds must expose their skins to the sunlight. It is possible to speculate that the spread of the human species to northern latitudes occurred because of a mutation that led to the loss of skin pigment. The pale-skinned mutants could utilise sunlight better for production of vitamin D in their skins than could their darker fellow-human beings. Sunlight was scarce and feeble during the long northern winters, but there was just enough for pale complexioned people and so, we speculate, the whites moved into the temperate and subarctic zones. Once there, they eventually found that the need for direct sunlight by their infants could be alleviated by eating fish liver oils.

But the long era of dependence on sunlight did not really come to an end until a tray of hog millet was pushed under a quartz mercury vapour lamp for ten minutes at the University of Wisconsin by Steenbock and Black. The irradiated millet prevented rickets when added to the diet of rats. In so doing, the millet had served as a 'way station' between ultraviolet radiation and the bodies of animals. From then on, it was no longer necessary to use direct irradiation for preventing rickets in babies. Preformed vitamin D now could be added to food at a trivial cost.

Another evolutionary development, probably a very ancient one, led to the appearance of a biochemical system for combating the carcinogenic effects of ultraviolet radiation: the complex system that removes thymine dimers from DNA, formed by such radiation. The dimers and some adjoining nucleotides in one of the strands are snipped out and removed by enzymes and other enzymes restore the DNA to its original state. Some individuals lack the repair system as a result of a genetic defect, and they are highly susceptible to skin cancer.

We have evolved in concord with our surroundings. Ultraviolet radiation is an example of a stimulus that has a beneficial role at low levels, but is harmful in excess. I am more optimistic for the future of the ozone layer than for the supply of jet fuel.