No bliss in ignorance

Plymouth, Devon

BRITAIN may be spending enough on scientific research but the "abysmal ignorance" of ministers and civil servants means the country is failing to capitalize on this investment, Sir Denis Rooke, president of the British Association for the Advancement of Science, told the annual meeting in Plymouth this week.

"You only have to deal, as I have over many years, with civil servants and ministers to realise the depth of their igno-

Sir Denis lambastes civil servants.

rance of scientific affairs. It is absolutely abysmal, much greater than my ignorance of the mechanisms of politics."

Sir Denis told delegates not to be side-tracked into equating Britain's relative failure in innovation with inadequate funding of the science base.

"A huge improvement in industrial innovation could take place using the fund of scientific knowledge already possessed," he said. "It is in the determined and innovative application of science and related technology that we in Britain are lagging today as a nation."

The answer, according to Sir Denis, an engineer who spent 40 years at the national utility British Gas, crowning his career as the chairman who steered the company through privatization, is to have more research organized directly by industry. This could either be in company labs or sponsored at universities.

UK companies should also scour the world for relevant scientific and technical advances, in the way the Japanese do. "The leaders of Japanese business tell me they send many of their brightest young scientists to the UK to pick up the latest scientific developments."

"It is on that intelligence that they build, creating profitable new products, well designed and efficiently manufactured," Sir Denis said.

Nuala Moran

HUMAN GENOME MEETING

The price of success

London

DOUBT clouds the future of the Human Genome Organisation (HUGO) gene mapping conventions after a tentative restructuring plan presented to the 11th Human Genome Mapping (HGM) Workshop, held in London last week, was met with vocal opposition from researchers.

This series of meetings has become a victim of its own success, as the assemblies have grown too large to stage effectively. But many researchers fear that the announced plans to limit attendance at future meetings to 150 participants would exclude all but HUGO officials and chairs of the increasingly autonomous chromosome mapping subcommittees, and the tide of feeling against the mapping workshop committee's plans ran high.

To be fair, HUGO President Sir Walter Bodmer emphasized that there was still a place for the large, old-style meetings, in addition to the chromosome subcommittees and the leaner, new-look plenary meetings, but plans for these are still vague and researchers are worried that the real business of genome mapping will be conducted elsewhere by a select band of HUGO apparatchiks, the big sessions

functioning essentially as window dressing. 'Grassroots' researchers, as one delegate put it, would feel excluded.

The problems are simply logistical. No fewer than 700 delegates squeezed into the elegant New Connaught Rooms conference centre in central London, and the locations of more than 600 new genes and more than 2,000 other DNA segments were announced. A densely printed 342-page book of abstracts is evidence enough for the intensity of the activity. The advances have been colossal: the first gene was mapped to an autosome in 1968, and fewer than 100 delegates discussed the mapping of about 60 genes at the first HGM workshop, at New Haven in 1973. Nowadays it is hard to find a venue that can cope with the demands imposed by hundreds of hungry, thirsty geneticists all at the same time.

For the moment, HGM 12 will go ahead as planned in Baltimore in 1992, and HGM 13 is pencilled in for Japan in 1993. But the style of these meetings is not entirely clear. Will they be hands-on business conferences or media circuses? The form they might take will, no doubt, be idiosyncratic and eclectic.

Henry Gee

Review panel blasts EPA report on EMFs

Washington

A BITING independent review has challenged much of a well-publicized report by the Environmental Protection Agency (EPA) on a possible connection between electromagnetic fields (EMFs) and cancer, and has recommended that the EPA rewrite the report almost completely.

When a draft version of the report was made public a year ago, it seemed to lend credence to theories that the EMFs surrounding power lines and electric machinery might promote cancer; an earlier, non-public draft had even suggested that EMFs be labelled as 'probable' human carcinogens. In response to the hoopla surrounding the report, the EPA asked that the Science Advisory Board, an independent body that advises the agency, assemble a committee to review the content and conclusions of the draft report.

The review panel, which included both EMF researchers and scientists from other, related fields, had little good to say about the EPA's report. It criticized everything from the executive summary ("Special care should be taken to insure that it should reflect the contents of the revised report exactly, without drawing any conclusions not substantiated by the body of the report") to the individual chapters ("The subcommittee finds that the report's discussion of epidemiologic findings is seriously deficient"), and concluded that "the draft report will have to be in effect rewritten."

The committee did not reject the possibility that EMFs could play a role in promoting human cancers, but rather concluded that the question of effects — harmful or benign — of EMFs on biological systems is "important and exceptionally challenging". The panel thought, however, that the EPA staff who produced the original draft report overstated and misinterpreted the available evidence, making the case for an EMF-cancer connection seem much stronger than it really is. (One small example, from among many: The chapter entitled "Supporting Evidence of Carcinogenicity" contains data that point toward biological effects of EMFs, but nothing that actually implies carcinogenicity, the committee noted.)

So it's back almost to the drawing board for the EPA. "We'll put together a plan for a new draft report over the next month," said William Farland, director of EPA's Office of Health and Environmental Assessment. The revised version will take into account the comments from the panel as well as from a second review with similar conclusions, and will add accounts of research done since 1989. The new draft will be ready in about a year, Farland predicted.

Robert Pool