

IN BRIEF

Brain drain persists

Although the brain drain has been partially plugged by restrictive immigration regulations in the United States, it is still proceeding apace, according to a study released by the National Science Foundation (NSF). Between 1966 and 1975, some 10,000 scientists and engineers emigrated to the United States, the study indicates, though the average annual influx dropped from 11,500 to 6,500 during that period. The two chief influences were an immigration regulation adopted in 1965 which eliminated the preference previously given to European applicants for immigration, and a regulation adopted in 1971 which removed scientists and engineers from the priority list because of high unemployment among scientific workers in the United States.

The result has been an overall drop in the number of scientists and engineers entering the United States, coupled with a marked shift in the relative numbers coming from Europe and Asia.

In 1965, the ratio of scientific emigrants from Europe and Asia was 40% and 28% respectively; by 1975, it had swung to 19% and 56%. Throughout the decade, the ratio of engineers to scientists remained fairly constant at about 2 to 1.

Waste report

The UK National Radiological Protection Board (NRPB) has followed up its recent publication dealing with disposal of high-level radioactive waste on the sea-bed with the release this week of a report studying the ways low-level waste is dispersed in the ocean (NRPB-R58, HMSO, 50p). Disposal of such waste, which consists of contaminated equipment, clothing and rubbish packaged with concrete or bitumen in metal drums that eventually corrode, has gone ahead under international arrangements for some years. The report describes a two-part (short term and long term) mathematical model for estimating maximum con-

centrations of radioactivity in water for continuous disposal, and can be used to assess the ocean's limiting capacity to accept radioactive waste.

Geos switch-on

Switch-on of experiments on Geos started on 29 April. Five out of the seven experiments have so far been tried and are working; the boom deployment programme is progressing satisfactorily. Eight hours of effective data transmission per day will be possible but only about four hours will be beyond 5 earth radii where the experiments are designed to operate. At a longitude of 35° E next week Geos could interact with Northern Scandinavian ground stations, but very little useful data are expected because of the movement of the satellite. Only a few per cent of the original data-taking capabilities of the mission can be realised, putting the IMS in jeopardy. A prompt launch of the spare Geos remains desirable.

EARLY in April the Federation of American Societies for Experimental Biology met once again in Chicago. It was, as always, the windy city, with snow flurries blowing off Lake Michigan. I stayed in the Conrad Hilton Hotel, as I had in 1941, when it was the Hotel Stevens. Some years later, I think in 1956, I had squeezed my way into a doorway of a packed room to hear a paper by Volkin and Astrachan on 'DNA-like RNA'. It was one of the first premonitions of messenger RNA. Prior to this, ribosomal RNA seemed the only possible template for protein synthesis, and its uniformity of composition in different organisms was not compatible with the diversity of their proteins. This year a capacity crowd of thousands sat comfortably in a big new theatre to hear a virtuoso performance by Fred Sanger as he described the nucleotide sequence of Φ X174 containing instructions for 1,849 codons in genes for eight proteins. One of the audience told me afterwards that it was always a humbling experience to listen to a lecture by Fred.

My thoughts turned to Federation Meetings, years ago, when a livelier iris changed upon the burnished dove and sprightly young women scientists caught my bachelor eye, or I tried to catch theirs. Alas, in 1977, I found myself looking automatically at all people with grey hair because I expected to recognise them as my contemporaries; souls that have toiled, and wrought, and thought with me. Such are the dividends of advancing

years. But there are really few experiences so rewarding as that of greeting an old colleague and friend whom one has not seen for a long time.

Federation meetings

THOMAS H. JUKES

I was the final speaker in an evening session in a meeting room at the Conrad Hilton Hotel. A modern note of social disintegration was sounded by an incident that took place within five minutes after I finished; someone stole the slide projector. I never found out if the purloiner was a disgruntled scientist who sought belated revenge because his slides at some meeting had been shown upside down.

The 'poster sessions' in the

McCormick Place Exhibit Hall were obviously very successful. This format has increasingly replaced the old system of 12-minute papers read in an often crowded and usually darkened room. On Tuesday afternoon, for example, there were 13 'regular' sessions in biochemistry and 9 poster sessions. The authors are on hand at their assigned posts, complete with posters, graphs and abstracts, to discuss their work with all passers-by who are interested. This gives much more opportunity for an exchange of views than is afforded by two or three minutes allowed for questions after a regular paper. The Exhibit Hall was, as ever, the scene of a dazzling profusion of intricate biochemical equipment and apparatus. One would not have suspected any slow-down in research.

There was the usual profusion of diverse social gatherings and cocktail hours, ranging from the Annual Meeting and Wine Mixer Association for Women in Science to the Korean Biologists Tea and the Physiology of Exercise Mixer.

I am afraid I have very little sympathy with those who oppose the granting of travel funds for scientists to attend such meetings. At such gatherings, names become changed into people, ideas are exchanged and stimulated, and long friendships are started. The public has garnered sufficient dividends from the progress of the biological sciences in the past 50 years to support the continuation of the Federation Meetings.