The talks thus promise to be a clash between two contrasting philosophies. While ICI in the past has concentrated on the manufacture of fibres and has left its customers—the textile firms—to themselves, Courtaulds has been following a boisterous policy of full control over the outlets. This has kept Courtaulds in closer touch with the market than ICI, and Courtaulds is believed to have made better weather of the ups and downs of the fibre market. On the other hand, ICI has smaller interests in textile firms, and has been trying to build them up without buying them out.

Nothing has been said officially about the agenda for the talks, but it is believed that the possibilities could be anything from a straight merger between the two companies to a declaration for the *status quo*. There could also be a jointly owned fibre company, or some kind of treaty limiting competition, for example. As things stand, the interests of ICI and Courtaulds are more complementary than overlapping; ICI concentrates on nylon, for example, and Courtaulds on rayon. Indeed, Courtaulds's textile interests make it one of ICI's biggest customers.

What could be at stake is the form which the European textile industry is going to take in the future. The leviathan which a merger of ICI and Courtaulds would produce would outdo even Du Pont as the biggest fibre producing company. According to the latest survey by the OECD special committee for textiles, the under-utilization of capacity which was the bane of the man-made fibres industry in the mid-sixties, especially in Europe, now seems to be over and there are reasons why production is going to increase in the

future. Clearly the two firms will be wanting to get into the right shape in time.

The Viyella bid could easily be a piece of opportunism on the part of ICI in case any arrangement with Courtaulds meets with disapproval from the government. Indeed, the talks will have to take account of the working group of the Ministry of Technology under Mr Harold Lever set up in the aftermath of the Viyella bid to take stock of the fibres industry. At the same time, in the United States any merger might come up against the sort of problem which has only just been resolved for British Petroleum. Clearly there is a lot to talk about after the years of cold-shouldering.

EDUCATION EXPENDITURE

More Students, More Money

by our Education Correspondent

THE booklet *Statistics of Education: Finance and Awards* (HMSO, 18s), which has just been published by the Department of Education and Science, makes interesting reading in spite of the fact that it refers to figures which are now eighteen months old. Total public expenditure on education in 1967–68 in England and Wales was, at £1,755 million, 12 per cent higher than in the previous year and 52 per cent higher than in 1963–64. There was a sharp increase in the number of students in higher and further education supported by public funds, from 137,000 in 1963 to 241,000 in 1968. In 1968, 21·4 per cent of a single age group (the average of the 18-year and 19-year groups) took up new awards from local education authorities to attend universities or further education establishments, or entered initial teacher training courses in colleges of education. This compares with 13·2 per cent in 1963.

Numbers of students taking up local education authority awards vary considerably between regions. For example, the north, Yorkshire and Humberside, and the Midlands all have less than average proportions of the relevant age group entering universities or further education establishments, but they have average, or greater than average, proportions entering initial teacher training courses. On the other hand, Greater London and the south-east fare better in university and further education entrants, but not so well in entrants to teacher training courses. The statistics also show that about 3 per cent of students holding full value awards at universities and 8·4 per cent at further education establishments do not complete their courses. Failure rates in final examinations in 1968 were 2·5 per cent in the universities and 11·1 per cent in further education establishments.

Expenditure on the schools continued to be the largest single item in the education bill for 1968, but it grew less rapidly than other sectors between 1963

100 Years Ago

The public mind seems now to be going mad on the subject of education; the Government is obliged to give way to the clamour, and men of science seem inclined to seize the opportunity to get, if possible, some share in the public money. Art education is already to a considerable extent supplied by the State,—technical education (which I presume means education in “the arts”) is vigorously pressed upon the Government,—and Science also is now urging her claims to a modicum of State patronage and support.

Now, sir, I protest most earnestly against the application of public money to any of the above specified purposes, as radically vicious in principle, and as being in the present state of society a positive wrong. In order to clear the ground let me state that, for the purpose of the present argument, I admit the right and duty of the State to educate its citizens. I uphold national education, but I object absolutely to all sectional or class education; and all the above-named schemes are simply forms of class education. The broad principle I go upon is this,—that the State has no moral right to apply funds raised by the taxation of all its members to any purpose which is not directly available for the benefit of all. As it has no right to give class preferences in legislation, so it has no right to give class preferences in the expenditure of public money.

From a letter to the Editor by A. R. Wallace, Nature, 1, 288, January 13, 1870. Wallace, a frequent contributor to Nature, conceived the idea of natural selection independently of Darwin.

Table 1. TOTAL PUBLIC EXPENDITURE ON EDUCATION (£ MILLION)

	1963–64	1966–67	1967–68
Schools	683·3	852·4	952·7
Further and adult education	125·0	183·4	211·5
Training of teachers	20·8	36·0	42·2
Universities	117·7	197·1	213·5
Other education	36·9	55·8	62·5
Total	983·7	1,324·7	1,482·4

and 1968. Expenditure related to education, but not included in Table 1, was £273 million in 1968. This figure includes £107 million on school meals and milk and £82 million on maintenance grants to pupils and students.

SCIENTIFIC EXCHANGE

Travelling with Strings

THERE is some consternation among Indian government scientists at what seems to be a new and restrictive policy towards foreign travel. By all accounts, the directors of laboratories of the Council of Scientific and Industrial Research are not able to accept invitations to travel abroad, either on their own behalf or for their colleagues, without the prior approval of the Ministry of External Affairs in New Delhi. In a circular distributed to directors of laboratories last year, the government says its policy is that although Indian scientists can accept local hospitality from "foreign government organizations", they are not in future to accept the cost of travel. Moreover, it has apparently been decided that government scientists in India cannot accept private hospitality from foreign organizations—learned societies and the like. Attempts are also being made to make sure that Indian government scientists do not indirectly solicit invitations from abroad, even from foreign government organizations.

Although it is, of course, quite proper that an employer—the Indian government—should know what its employees are up to, it seems to have become a tradition that the directors of government laboratories should have quite substantial delegated powers. The restriction on the acceptance of foreign travel funds and hospitality from government organizations abroad is bound to be hurtful at a time when Indian laboratories are more acutely conscious than others of financial restrictions. No doubt policy determined by the Council of Scientific and Industrial Research is intended benevolently, but its effect on the morale of some scientists has been unfortunate.

CANCER RESEARCH

MRC Coordinates

THE Medical Research Council is about to set up a committee to coordinate cancer research in Britain. Membership of the committee is still under discussion, but the MRC has said that all bodies concerned will be represented "both scientifically and otherwise". Fears that the coordinating committee on cancer research would consist only of administrators and chairmen of governing boards thus seem unfounded.

It may appear surprising that the MRC has not before this explicitly planned the coordination of cancer research, but only recently has it held enough cards in its hand. The Institute of Cancer Research (ICR) (which includes the Chester Beatty Research Institute) and the Imperial Cancer Research Fund are the two major institutes of their kind in Britain, but until recently they have been largely financed by charity (although the ICR has been on the MRC's books for a long time). The Imperial Cancer Research Fund (ICRF) still raises its own money (its current income is about £2.5 million a year) and in effect shares the charity market with the British Empire Campaign for Cancer Research (BECCR),

whose annual income runs to about £1 million. The British Empire Campaign does not conduct research itself but gives its money away—its chief pensioner has been the Institute of Cancer Research, which receives an annual £250,000.

It seems that hitherto coordination between the various research organizations and their sponsors has proceeded on a fairly informal basis. The fact that the Institute of Cancer Research, for example, has no virology department presumably reflects what was a gentleman's agreement with the ICRF, although it seems that last year the ICR petitioned the MRC in vain for the funds to set up in virology.

The analogy between cancer institutes and cancer cells should not be pressed too far, but there seems nonetheless a tendency for both types of organism to exhibit uncontrolled growth at the expense of their neighbours; certainly this has been the case abroad, and Britain, too, may not be immune from the disease. The MRC's coordinating committee may be an effective form of chemotherapy, even though it comes rather late in the day, but what kind of remission will it provide? Much will depend on how radical it is prepared to be.

BRAIN DRAIN

Flying Scotsmen

THE high road to England is no longer the noblest prospect a Scotsman ever sees, in Johnson's derisive phrase, but that is not to say the streets of Edinburgh are paved with gold. Over the past century there has been a steady exodus of educated Scotsmen to England and abroad, according to a study of those who graduated from the University of Aberdeen between 1860 and 1960 (*Geographical Mobility and the Brain Drain*, Donald MacKay. Allen and Unwin, 1970. 60s). Throughout the period, the scientists have been readier to forsake British shores than the arts graduates; some 28 per cent of those who took science degrees have worked wholly or chiefly abroad, compared with 19 per cent of those graduating in the arts. Emigrating engineers and doctors, however, have tended to move south of the border rather than farther afield.

Lamenting the paucity of information which has marked public debate about the brain drain, Mr MacKay claims to make the first step towards providing a more rigorous assessment of the phenomenon. Unfortunately his statistics stop short at 1960, which makes it difficult to compare his conclusions with, for example, the inferences from the Jones report of 1967, which deals only with the 1960s and draws on rather different source material—the numbers of British and Commonwealth scientists, technologists and engineers of all ages emigrating from Britain.

The Aberdeen figures show that the rate of emigration fell to an unusually low value in the 1930s but had risen again by 1951 to roughly the same proportion as at the beginning of the century. What they cannot reveal, as Mr MacKay points out, is whether the increase was simply a readjustment or whether it was the beginning of a trend that continued into the 1960s. Support for the second view comes from a survey in *Lancet* (ii, 427; 1969) which implies that a third of Aberdeen's medical graduates in 1956–58 are now working abroad. For Mr MacKay's 1951 sample, the corresponding proportion was only a fifth.