only Heathrow made a significant profit, £6 million, which is 14 per cent better than in 1966-67. Trading losses were reduced at Gatwick and Stansted, but profits fell marginally at Prestwick. The overall return on capital was 10.98 per cent compared with 10.27 per cent in the previous year. By the standards of all the nationalized industries, which only managed an average of 3.9 per cent return on capital, that is perhaps satisfactory, but the average for private industry over the first quarter of 1968 was 13 per cent. In effect, all the authority's eggs are in one basket. Heathrow, as the world's busiest international airport, makes all the profit and receives all the capital investment. Of the £37 million worth of capital works in hand, £36 million is being spent at Heathrow on new passenger and freight terminals; the other three airports share less than £1 million.

Apart from the problem of where to put a new airport, the authority sparked a controversy of its own and was threatened with a boycott when it raised international and continental landing charges by 16.6 and 12.5 per cent after April 1. The report goes to some length to justify the increase. The authority has, of course, statutory instructions to make a reasonable return on its capital and has committed itself to raising internally about 60 per cent of the £75 million it plans to spend in the next five years. But the immediate stimulus for the increase was devaluation; to keep its landing fee earnings at the pre-devaluation level it would either have had to increase traffic by about 20 per cent—and there was no real hope of that—or charge more. The authority claims, however, that even after the increase its airports are by no means the most expensive in Europe, but only Stockholm and Paris charge international carriers more. The only way the authority can really justify its increases is by giving its customers better service, and the improvements in facilities which will be needed before the jumbo jets come into widespread service are being planned in consultation with both airlines and the aircraft manufacturers.

AIR TRANSPORT

Slower but More Sure

THE Commission of Inquiry on the third London airport, which was set up in May by the British Government after the public outcry over the mishandling of the Stansted site, has taken the unprecedented and encouraging step of setting up a full scale research team to make a cost-benefit analysis of possible sites. Equally important, the commission and the Board of Trade are offering realistic salaries, competitive with those in the universities, which are obviously the recruiting ground they have in mind.

The commission has Mr Justice Roskill as chairman and includes Professors C. D. Buchanan (transport), D. Keith-Lucas (aircraft design) and A. A. Walters (social statistics), Mr A. Knight of Courtaulds, Mr A. Goldstein (a consulting engineer) and Mr A. J. Hunt of the Ministry of Housing and Local Government. Their task, set out in the terms of reference, is "to inquire into the timing of the need for a four-runway airport to cater for the growth of traffic at existing airports serving London, to consider the various alternative sites, and to recommend which site should be selected".

The commission seems to have accepted that the new airport will be somewhere near London. It has also accepted the broad outline of procedure suggested by Mr Crosland, the President of the Board of Trade, in his announcement of May 20. The first stage of the inquiry which is currently in progress is to receive, by October 31, detailed proposals in favour of specific sites and to draw up a short list which should be ready late this year or early in 1969. The research team which the commission is now recruiting will be needed in subsequent stages of the inquiry when the possible sites will be fully evaluated. At least the skeleton of the team will be needed early in 1969, but at this stage neither the commission nor the Government is prepared to commit itself on its size, scope, duration or cost. Much apparently will depend on how the inquiry progresses. Whatever happens, however, the team will have to be broadly based if it is to make a useful analysis of the airport, which involves considerations as different as amenities and defence.

The research group will probably start with four or five section heads, equivalent in pay at least to professors, who will cover the major areas of the inquiry—economics, engineering, social consequences and transportation to the airport. Advertisements for the posts ask for people trained in every relevant field and offer interchangeability of university pensions as well as competitive salaries. The Board of Trade received more than a hundred letters of inquiry by the first post after the advertisements were published.

The inquiry evidently promises a great many academics a chance to escape for a while from the current frustrations of academic life and, at the same time, to try out their talents, without too much risk, in some field other than the universities. It will be fascinating to see how quickly other branches of the British Government recognize this procedure as a valuable device for encouraging mobility of intellectual labour.

ASTRONOMY

Eclipse in Siberia

from our Astronomy Correspondent

THE path of the total eclipse of the Sun on Sunday, September 22, passes through the Soviet Union and ends in China, but as the map from the *American Ephemeris and Nautical Almanac* shows, a partial eclipse will be seen from most of Europe, parts of Africa, and southern Asia. There are several reasons why the circumstances of this eclipse are not as happy as astronomers would like. Along the path of totality, the altitude of the eclipsed Sun will reach a maximum of only 19°, and the late September weather in the region to the east of the Ural Mountains, where much of the path lies, is not particularly noted for cloudless skies. To the far north of the Soviet Union there is normally only one clear day during September along the path of the eclipse, but conditions improve towards the south, and near the intersection of the eclipse path with the Chinese border there are, on average, 14 clear September days. As far as weather conditions go, the ideal location to view the eclipse would be just south of Lake Balkhash (visible on the map), but here the altitude of the Sun will be only about 10 degrees and the duration of the eclipse about half a minute. Unfortunately, the total eclipse contrives just to miss Alma

Ata, near the Chinese border, the location of the observatory of the Kazakh Academy of Sciences, which is well equipped with telescopes.

Russian plans to observe the eclipse were described in *Nature* last year (216, 950; 1967), and astronomers there have decided to sacrifice the more favourable weather conditions of the Lake Balkhash area for a location where the altitude of the Sun and the duration of more than 40 seconds will be at their maxima for the

eclipse. The location chosen by the Russian astronomers is a station on the Trans-Siberian Railway between Sverdlovsk and Kurgan, at a latitude of about 56° N., where September cloudiness is normally some 60 per cent. Does this mean that the Russians are prepared to use cloud seeding techniques to disperse cloud cover as they claim to have done successfully during the 1961 eclipse which passed over the Crimea?

The magnitude of a partial eclipse is defined as the fraction of the diameter of the Sun covered by the Moon. At London, the partial eclipse will begin at 9.29 UT and the magnitude will be 0.285. On the map, the time of the middle of the eclipse is marked, as is half the duration of the eclipse, in minutes, so that at London the eclipse will last 1 h 46 min and the maximum will be at 10.21.

EDUCATION

Leaving Young

SOON after its first meeting in 1964, the Schools Council described the proposed raising of the school leaving age to 16 as a bold act of faith. It believed that, because so little was known about the attitudes to school of children, parents and teachers, it would be difficult usefully to occupy the extra year at school of the children who would otherwise have left at 15. In an attempt to solidify the act of faith, the Schools Council commissioned the Government Social Survey to enquire into these attitudes, and the results of this £80,000 operation are published this week. (*Young Leavers*, HMSO, 15s.)

Originally it was hoped that the enquiry would be completed by 1968, so that there would be a three year gap before the leaving age was raised—time for teachers to use the findings in the planning of curricula. The Government's decision to postpone the raising of the leaving age was announced while the results of the enquiry were being printed, but the

Schools Council decided that its findings were nevertheless important and relevant to curriculum planning, and publication has not been held up.

A random selection of 4,500 children in the 13 to 16 age group and their parents, 3,500 19 to 20 year olds, and 1,500 head and assistant teachers were interviewed so that comparisons could be made between the views of 15 year old leavers, their parents and their teachers; between 15 year old leavers and pupils who stay longer at school; and also between those at school who were expecting to leave at 15 and the 19 and 20 year olds who had left at 15. Attitudes to school form the major part of the enquiry, but relations between home and school careers, further education and general attitudes to life were also investigated.

Considerable differences were found in attitudes to such things as the objectives of school, the value and interest of various school subjects and the amount of practical work desirable in any subject. The report on the enquiry was written primarily for the educators, with the Schools Council hoping that teachers will compare the results with their own experience and will use the questionnaires as a basis for their own investigations, so that the problem of what to teach and how to teach it will be resolved according to the needs of each school. But the wider problem of parental cooperation and involvement with school is also brought to light in the enquiry. It is believed that all parents must come to realize that they have a part to play in the education of their children, and it is in the field of relationships between home and school that much work can be done for the young leaver.

UNIVERSITIES

Stanford at Cliveden

By the middle of this month, Stanford University may well have acquired Cliveden, until 1966 the home of the Astor family, to supersede Harlaxton Manor in Lincolnshire as its British campus. The university and the National Trust are at present negotiating the terms of a 21 year lease. Stanford University may seem a particularly fitting tenant for the estate, for the second Viscount Astor, who gave Cliveden to the National Trust in 1942 and whose family has strong American connexions, asked that Cliveden should, if necessary and possible, be used as a centre for educational or trade union activities concerned with Anglo-American relations.

There have been unsuccessful negotiations with three trade unions, all now frightened off by the cost of maintaining the 337 acres of grounds. Stanford already has a campus at Grantham, which opened in 1966, but this is too far from London. The campus in Britain is one of seven overseas campuses of the university—the others are in France, Germany, Italy, Austria, Japan and Formosa—and more than half the students in California spend six months at one of them at some time during their undergraduate career. They come with two or three professors and are also taught by staff from local universities. The idea, which Stanford has pioneered, is that a spell abroad is an essential part of an undergraduate's education, but, with the cost of living less abroad than at home, the custom must also provide a sense of something for nothing, or nearly nothing.

As yet, no other American university operates