

NEWS AND VIEWS

Have Grades, will Travel

DR K. C. DUNHAM, director of the Institute of Geological Sciences, recently told the Select Committee on Science and Technology investigating NERC that he thought no university could really so call itself unless the earth sciences were taught. Dr Dunham's remarks are bound to command respect, but there are some signs that they were in response to the suggestion (*Nature*, **221**, 903; 1969) that halving the number of geology departments in Britain might have beneficial effects. Certainly that article has stirred up interesting responses, ranging from agreement to rejection. The subject deserves broader discussion.

It is clearly desirable that every university entrant should be able to wipe the slate clean as he leaves school and move, if he wishes, in a new direction. For some university courses this is relatively easy. An arts man may find that he can switch with ease from classics to theory, or philosophy, or history and not feel that he has five years of school work to catch up. He is unlikely to find the jump to physics an agreeable experience—attempts in the past to smooth his path have not met with unmitigated success. But just as jumping into science is difficult, the first year science undergraduate is loath to set aside his almost vocational training after so many years and within sight of his precious degree. Undoubtedly this explains why many of the scientists who emerge from the universities are disillusioned and bored, and is in part a reason for the small but significant swing away from the sciences in the past few years. Clearly it is desirable to keep doors open as long as possible. Science has profited enormously, particularly in recent years, from the man who has eggs in two baskets. For this reason, one cannot but agree with Dr Dunham's remarks when taken in the spirit that everyone ought to have the chance to dip into geology. By the same token, perhaps every linguist ought to have the chance to learn Chinese and therefore all universities should be able to cater for all tastes.

Some sort of non-proliferation treaty has emerged, of course, over the years, either informally or as a direct result of Government policy. It is one thing to promise an undergraduate anything under the Sun but quite a different thing to amass a suitable teaching staff to keep the promises. Yet there still seems, in some places, to be a feeling that a course of some sort is better than none at all. The problem of offering undergraduates a full choice but one which is of quality across the board, however, is not insuperable. The fly in the ointment must surely be the precious autonomy of the universities and even, in some places, of colleges within universities. The principle of autonomy has been so stoutly defended over the years that in keeping out the world, the flesh, the devil and the Government, universities have followed widely different

paths. This is fine in so far as individual character is developed and each university has its own flavour, but not so fine in making effective use of limited resources or in enabling a prospective undergraduate to find a university to suit him. Confronted with forty different mixtures, it would need remarkable insight to choose the most satisfactory.

The solution stares us in the face. Mobility is urgently needed. If an earth sciences department is necessary to every university, it is surely not for its high table conversational skill nor any unique contribution to university life. What Dr Dunham undoubtedly meant was that students should have access to the earth sciences and, by the same token, to astronomy, molecular biology and many other disciplines. For the time being, at least, universities do not seem keen to hire buses to take their people twenty miles to hear good lectures—they claim it would interfere with their administrative arrangements. How about some credit system instead? The immobility of the undergraduate in England is alarming. If a man revealed to his prospective employer that he had been to two universities to get his BSc, he would come under immediate suspicion of having failed or been expelled for taking drugs. But is a peripatetic scholar, commonly accepted in Europe for centuries in the past, such a bad idea? Probably quite the opposite—a student will be less crammed full of the pet subjects of his professor and he can start his career from a broader, more sharp witted and tolerant base.

The one major obstacle is that of examinations. Everyone who has interviewed graduates will know the remarkable dissimilarities between universities (in the name of autonomy). Is it not possible for the Committee of Vice-Chancellors to start putting its mind to a uniform examination system after the first year? The administrative problems are surely not insuperable. With examination marks on a card and credits safely tucked away for the year, the undergraduate could then move on to taste high quality teaching elsewhere. And some of the sciences, such as geology, which gain few converts in attenuated departments would have a much larger stream of enquiring minds interested in them if they could boast a smaller number of well staffed centres of excellence.

ASTRONOMY CONFERENCE

Boom in Microwaves

from our Astronomy Correspondent

THE movement to extend astronomical observations to exotic regions of the spectrum last week took a step further with a meeting at the Institute of Theoretical Astronomy at the University of Cambridge to discuss the no man's land between optical and radio observa-