

have reached the stage of calling helpers by the same name. In his speech to the N.U.T. conference at Scarborough last week, Mr. Crosland followed the Plowden report in calling them ancillaries rather than auxiliaries, a distinction invisible to all but the keen eyed fundamentalists of the N.U.T. Mr. Crosland seemed eager to conciliate—"This is not a topic on which we want to take up entrenched or intransigent positions"—and said that the growth of ancillary help in the schools had been remarkable. There were, he said, 16,000 full time and 70,000 part time helpers in the schools today. He might have added that most of these are secretaries, welfare assistants and meal assistants who are welcomed by the profession, and have no duties within the classroom.

Teachers fear that the profession will be "diluted" if ancillaries are allowed to take on teaching duties, but Mr. Crosland seemed heartened by a recent report by a working party of local authorities and teachers associations. This recommended that ancillaries should be allowed within the classroom, making it clear at the same time that they should be concerned exclusively with non-teaching duties. Mr. Crosland glossed over this point, but if this type of structure were adopted, the scope for legalistic quibbling and demarcation disputes would be enormous. Cleaning the blackboard is clearly a non-teaching duty, but what about writing on it? Or operating a projector?

Having made his concession on nomenclature, Mr. Crosland moved on euphorically to what he described last year as the "dawning revolution in the technology of education" or more prosaically as the use of audio-visual aids in the classroom. He said that teachers should not be cynical about this—the Plowden report had not been cynical. He announced a new body, to be called the National Council for Educational Technology, to cover training in industry and the services as well as in education. Finally, Mr. Crosland gave some impressive figures which show that he is at least as tough with the Treasury as he is with everybody else. In 1965 and 1966 he said, the Gross National Product had risen by 5 per cent, while educational spending had risen by 12 per cent. This year he optimistically forecast a 1-2 per cent increase in GNP, and a 5 per cent increase in educational spending.

Darwin's Notebooks

CHARLES DARWIN was in the habit of cutting from his notebooks those pages which were most useful to him when he was preparing to write his large book on natural selection, of which *Origin of Species* was but an abstract. This book never appeared and the vital pages were lost, although the rest of the notebooks were published after Darwin's death. Two sets of pages have since been found in the British Museum (Natural History); the second set of 202 pages is now published by the museum as *Darwin's Notebooks on Transmutation of Species, Part VI (Bull. Brit. Mus. Nat. Hist., Historical Series, 3, No. 5, 1967, £100)*.

Because the notes are concerned with transmutation of species, most of them refer to examples which illustrate some aspect of adaptive variation. Geographical distribution was very important to Darwin and he recorded examples of species which are peculiar to particular areas and of closely related species living together, such as two bears in Borneo and Sumatra

which differ only in the form of a white mark on the breast. He was, of course, interested in hybridization—"one ought to be able to hybridize the camel". He considered that the ability to produce fertile hybrids is related to the capacity for variation. He says, however, that "my definition of species has nothing to do with hybridity, is simply an instinctive impulse to keep separate". In considering "a repulsion amounting to impossibility holds good in plants between all different forms" he recognized the external symptoms of genetic incompatibility.

A note written on September 28, 1838, shows how T. R. Malthus' *Essay on the Principle of Population* influenced Darwin in the formulation of the theory of natural selection. He wrote in his notebook "Population is increase at geometrical ratio in FAR SHORTER than 25 years—yet until the one sentence of Malthus no one clearly perceived the great check amongst men". The sentence of Malthus is identified in a footnote by the editors of the notebooks as "It may safely be pronounced, therefore, that the population, when unchecked, goes on doubling itself every twenty five years, or increases in a geometrical ratio". This made Darwin realize that the forces which check populations push favourable adaptive variants into their own ecological niches, and thus constitute natural selection.

Electrical Research

THE Electrical Research Association has had a difficult year. The Electricity Council, which represents the supply industry in the United Kingdom, withdrew from membership of the association, taking with it a substantial annual subscription and eleven members of the association's governing council. The association has now drawn up a new constitution and at an extraordinary general meeting last week elected the nucleus of a new council. Eighteen members of the council were elected out of a total of 41. The other 23 members will be made up of one representative from the Institution of Electrical Engineers, one from the General Post Office, one from a firm of consulting engineers, one representing technical colleges, four representing associate members, four from trade associations and, extending the olive branch, two from the electricity supply industry. With the chairmen of the five divisions of the association and the electronics advisory board, and three official representatives from government departments, the full complement of 41 is made up.

In its anxiety not to exclude anybody, the association seems to have created a council only marginally smaller than its previous one. Elected members are still in the minority. Speaking after the meeting, the director, Dr. Harry Taylor, may have been wishful thinking when he said that the council would seldom meet. Actual running of the association will be carried out by a management committee of eight.

The action of the Electricity Council has clearly put the association on the defensive. The reason given by the council for leaving the association was that with its own research centre at Capenhurst, it was "no longer appropriate" for the supply industry to support the association on a fixed annual basis. For some years the council expects to place individual research contracts with the association, though ultimately these will have to be justified in strict economic terms.