

Two items arise from this research. First, it has been said that there is a large number of sixth formers with middle of the road Advanced level passes who would make good university students but who are nevertheless not able to obtain places. Secondly, it has also been said that there is far too much specialization in the sixth form arising from the need to cram. The shortage of university places accounts for the first and the shortage of time available to investigate candidates thoroughly undoubtedly assists this shortage. It would seem that projects such as those described would not only offset specialization, but also, if run on the lines of a second degree whereby an external oral examination was given on the candidates dissertation, provide the universities with a powerful means of selection. An alternative would be to offer a general paper on science subjects in which a candidate is required to write two fairly

lengthy dissertations on any two of a variety of subjects announced during the two years preceding the examination. The former method seems to be the better since it offers the student an introduction not only to the wide aspects of scientific inquiry but to a knowledge of its tools.

¹ Heywood, J., *Nature*, **186**, 189 (1960).

² Heywood, J., *Nature*, **188**, 900 (1960).

³ O'Neil, C., and Borlengi, M., *Mem. Brit. Astro. Assoc.* on "The Design of Radio Telescopes" (in the press).

⁴ Murdin, P. G., *Mem. Brit. Astro. Assoc.* (in the press).

⁵ Pawsey, J., and Bracewell, R. N., *Radio Astronomy* (Oxford, 1960), Lovell, A. C. B., and Hanbury Brown, R., *The Exploration of Space by Radio* (Chapman and Hall, 1957), Smith, F. G., *Radio Astronomy* (Pelican, 1961), *The Services Handbook of Electronics*, vol. on "Transmission and Propagation" (H.M.S.O.).

⁶ Ellison, M. A., *J. Brit. Astro. Assoc.*, **69**, 127 (1959).

⁷ Pettifer, J., *Mem. Brit. Astro. Assoc.* (in the press).

⁸ Sander, K. F., *Proc. Inst. Elect. Eng.*, Part 3A, **93**, 1487 (1946).

⁹ Osborne, J. M., *School Sci. Rev.*, No. 142, 478 (1959).

¹⁰ Sabbagh, J., communicated to *J. Brit. Astro. Assoc.* (1961).

UNIVERSITIES COUNCIL FOR ADULT EDUCATION

DURING 1959-60, as in 1958-59, there was a small increase in the total number of adult education courses over the figure for the previous year, from 4,741 to 5,051, and *prima facie* a striking increase in residential courses, from 351 to 575*. Apart from residential courses, the most notable increase was in the number of sessional courses. At 1,647 they reached a record maximum. This upward trend has been steady over the past few years, the average rate of increase since 1955-56 being about 5 per cent per annum. Alongside this increase the downward trend of tutorial classes has continued although the fall has been at a reduced rate, from 851 to 839, a reduction of only 12 compared with 46 and 53 in the two previous years. At Manchester, where the decline in the number of tutorial classes caused concern to the Joint Committee, a leaflet outlining the advantages of tutorial class study was printed and given to every Workers' Educational Association student who was not a member of a tutorial class. From Hull comes a reminder that "in general, tutorial courses offer more obviously and more fully, opportunities for the development of classes into strenuous seminar groups". Southampton, though regretting the reduction of this type of work, wonders whether the development of tutorial work has been pushed, in recent years, beyond reasonable limits. The report of King's College, University of Durham, contains this thought-provoking paragraph:

"Part of the answer to the decline in tutorial classes is that adult education is ceasing to be the 'late night' substitute it once was. There are fewer gaps in the educational system through which the potentially highly educable boy and girl can slip out of the main stream. While it is by no means infallible, and cannot be so long as the sill of the catchment area remains at the 'eleven plus', comparatively few pupils of good standard fail to make the grade if they try hard enough. The most grievous failure of the present system is that it so easily misses those who, at the vital age, are unaware of the need to make the effort and who lack parental pressure to encourage them to do so. Alongside the elimination of much of the earlier material from which adult students

were made has gone some of the incentive to seek a higher education. The social scene of the early decades of the twentieth century has changed. The Welfare State needs a smaller quota of pioneers, dedicated to the attainment of social justice, and a much larger one of trained social workers, with qualifications, for the administration of its machinery. Moreover, progress in any occupation is now achieved through certificate, diploma or degree to a much greater extent than ever before, and the provision for those ends becomes steadily more extensive. So, the tutorial class, which in theory offered an opportunity for study for its own sake, but which in fact offered all kinds of other inducements, is less an attraction because it is less needed.

"The character of adult education is undergoing change no less than other factors of twentieth-century life and, although the tutorial class should continue to attract those who recognize its essential quality, universities may soon need to consider the introduction of incentives to it other than study 'for its own sake'."

One respect in which the character of adult education is undergoing change is the continued development of residential courses. Several departments comment on this as forming perhaps the most satisfactory side of their work. The residential course is a reflexion of changed social and economic conditions. "People are, on the whole, rather better off and at the same time they have many competing claims on their time. They prefer, wherever possible, to take their adult education in small and intensive doses, a limited commitment in a limited time, instead of spreading it over a long period of time, as in the past." Manchester is to be congratulated on the success which has deservedly crowned its persistent effort to demonstrate the importance of an extra-mural residential college.

Because of changes of classification, a strict comparison of the 1959-60 figures of subjects of study with those for previous years is not possible, but there seems not to have been any significant shift of interest. Indeed, the consistency of students' interests year after year, as revealed by the table of subjects studied, suggests either that there exists a peculiarly proper balance of subjects in extra-mural work and that it has been attained, or that students

* Universities Council for Adult Education. Report on the year 1959-1960. Pp. 28. (Bristol: W. E. Salt, Honorary Secretary and Treasurer, The University, 1961.)

are notably conservative in their concerns, or that the pattern is largely shaped by the availability of tutors. The largest number of extra-mural classes in Wales was in religion, and clergy and ministers of religion formed the second highest category in the analysis of tutors.

The number of full-time tutors showed a slight increase over the previous years, and was almost the same as in 1956-57. Nevertheless, the increase in full-time tutors did not match the increase in courses, and consequently a larger number of part-time tutors was engaged, 3,838 compared with 3,512 in the previous year. This was a continuation of the trend noticeable during the past few years. The proportion of part-time tutors who are members of a university staff has at the same time declined slightly, but steadily, from 48 per cent in 1956-57 to 45 per cent in 1959-60.

Since the War, extra-mural work has expanded into fields such as archaeology, music and the visual arts in which, though it is accepted that they are properly subjects of university study, a considerable proportion of the practitioners and exponents are to be found outside the universities. Moreover, dons become busier and more heavily committed. Belfast refers to the "growing reluctance of university teachers to make weekly journeys", Newcastle comments that "the prevailing apparent disinclination on the part of internal university lecturers to commit themselves to the longer course, especially if travelling is involved", and both Liverpool and London regret the transport difficulties which make it hard, or even impossible, for members of the internal university staff to travel to the remoter parts of their extra-mural areas. At a time when students have become more mobile, dons have become less so. This is a minor, less-prominent, feature of the mid-twentieth century social revolution; it creates new problems in maintaining the university complexion of extra-mural work.

Specialized courses which relate to a professional or vocational interest are now widespread. Manchester has a one-year training scheme for hospital welfare workers, a one-year public administration course for overseas Government servants, and a course on background to management for business executives which received the commendation of the Human Sciences Committee of the Department of Scientific and Industrial Research. At Liverpool there were several courses in the natural sciences at the postgraduate level, two of them, in applied mathematics and experimental botany, leading to a certificate. London has approved the introduction of a three-year course of study leading to a certificate in transport studies, and 1959-60 saw the beginning of the course for the diploma in the history of music. At Leeds, courses in such subjects as textiles, engineering, mining and fuel were arranged in association

with internal departments of the University, and other courses were arranged for members of the staffs of the Home Office, the Prison Commission, the National Association for Mental Health, the National Coal Board, and the National Union of Mineworkers.

Courses of this kind are carrying universities into new fields where extra-mural departments are having to institute their own research. Leeds has received a grant from the Nuffield Provincial Hospitals Trust for work on the staffing of the hospital service, Liverpool appointed a research worker to study the impact of social change on adult education, and Oxford has embarked on a three-year scheme of research and experimental work in the field of trade union education.

These kinds of courses appeal rather to individual students than to pre-existing social groups, although it is always hoped that every class will grow into a cohesive social group. People move about much more often than they used to, and groups are less permanent. Continuity and progression of study needs to be thought of in terms of the individual more than of the group. The Leicester report, in its survey of the thirty years 1929-1959/60, contains a statement which would command at least partial acceptance generally:

"There has also been a decided change in the ethos of the department's classes. Formerly, it was markedly social, now it is markedly individual. Classes and courses still grow into social unities, but this is now an incidental growth and it has not the educational significance which it once had. Rarely now do classes and courses become schools of citizenship as well as vehicles for teaching and learning in specific disciplines."

Another respect in which the change is noticeable is the educational background of students. The percentage of weekly wage-earners and of those with only an elementary or secondary modern education has fallen more than 40 to less than 10, and the percentage of professional workers and of those with a college or university education has risen from less than 10 to more than 40. Of the thousand students attending grant-aided extension classes at Leeds, more than 40 per cent had been to a university, teacher training college or technical college, and another 30 per cent had attended school at least until the age of sixteen. Almost half of them were under the age of thirty-six.

There are numerous examples of extra-mural classes undertaking field-work which has added to knowledge in botany, zoology, archaeology and history. Under the tutelage of the Durham Extra-Mural Board, for example, a group of 15 students has investigated the site of a medieval village at West Whelpington, and their findings make a distinct contribution to the comparatively new venture of British archaeology into the later Middle Ages.

MUSEUMS AND GALLERIES

THE recent report of the Standing Commission on Museums and Galleries stresses the responsibility of the British Government with regard to these institutions, and urges some immediate action*.

* Standing Commission on Museums and Galleries. Sixth Report, 1959-1960. Pp. iv + 64. (London: H.M.S.O., 1961.) 4s. net.

Contrary to past practice, this sixth report covers only two years (1959 and 1960) instead of the usual quinquennial period. In emphasizing the need for more frequent reports, the Commission feels that this is a period of active rehabilitation in museums after a time of severe financial stringency. There is an