

the publishers. The courses which have been developed are several series of film loops—reels of 8 mm film arranged in an endless loop packed in a plastic cassette in such a way that they can run continuously for up to five minutes. The intention is that students should be shown the film loops and should then show them to themselves at will, and that they should read specially prepared texts at the same time. The texts differ from more conventional educational literature in that they present students with problems intended to be challenging in some way or another. The man chiefly responsible for the new courses, and the film loops which constitute its essence, is Mr. Lester Ball, a New Zealander who has been in England since 1962. Among the courses already in existence are those concerned with metal shaping, tools, measurement and inspection, and electronics. The last of these has been prepared in collaboration with the School of Electronic Engineering of the Royal Electrical and Mechanical Engineers. The company will supply educational materials to institutions which can use them, and will also undertake contract work for industrial organizations seeking help with industrial training. Sir Willis Jackson and Sir Harrie Massey are acting as consultants to the new company, known as ICEM. Mr. Harold Macmillan, chairman of Macmillan and Company, said at the launching of the new venture that he was struck with the revival of the visual method of teaching which seemed to have come into its own again after the invention of printed books had toppled frescoes, stained glass windows and the like from their supremacy.

### “Why Dentistry?”

THE noble image of the doctor bringing comfort to the sick is not often shared by his poorer relative the dentist. Dentistry is too often considered to be the choice of students who cannot get into, or stay in, medical schools. This is especially reflected in Britain by the low ratio of dentists to the total population—one dentist for 3,500 patients in Britain compared with one for 2,000 in the United States and one for 1,100 in Sweden. There were 788 first-year places available in the 17 dental schools in the United Kingdom last year. This represents an increase of more than 100 places in ten years, but with fewer than 17,000 dentists in the country, the gap continues to widen.

The General Dental Council has recognized the need for more dynamic recruiting methods, and with a £10,000 grant from the Leverhulme Trust has produced a 25 minute 16 mm film entitled “Why Dentistry?” aimed at 15 year olds in schools. (About 50 copies of the film will be available on free loan from Sound Services Limited.) The film attempts to cover the chief phases of dental education and to give students some idea of the varied work that is open to dentists—from oral surgery and general practice to forensic science. A side effect of a film filled with happy children at the dentist’s surgery might with luck be to decrease the unreasoning fear that many people have of the dentist.

### Tumours in Lower Animals

THE Smithsonian Institution has joined with the National Cancer Institute to establish a Registry of

Tumors in Lower Animals. The purpose of the Registry is to collect specimens the study of which will be useful in gaining a fundamental understanding of neoplastic processes. The collection will be housed in the U.S. National Museum, Washington, D.C. The activities of the project include the collection, gross and microscopic examination, interpretation, and documentation of lesions of poikilothermic vertebrates and invertebrates. Although by definition neoplastic diseases are generally considered to be limited to metazoans, it is possible that processes akin to neoplasia may occur at the subcellular level in protozoa. Examples of protozoans involved in such processes will also be collected.

Mr. George E. Cantwell, Director of the Registry, invites scientists to help in building his collection by submitting examples of induced or naturally occurring neoplasms, pre-neoplastic conditions, or indeterminate lesions of a presumptive neoplastic nature. He acknowledges the weaknesses in definitions of neoplasia, particularly in invertebrate animals, and for this reason the collection is intended to include anomalies of growth and form of any type. Clearly, among the invertebrate animals there is an indistinct borderline between neoplastic disease and the processes of inflammation, repair and regeneration. Examples of the latter processes may be useful as control material, to establish points of reference.

This Registry has been located and designed particularly to encourage participation by biologists who are not closely associated with medical or veterinary science. It is separate from the various Tumor Registries operated by the Armed Forces Institute of Pathology, although in function it is supplementary. It is unique in providing the services and experience not only of Smithsonian biologists of many specialties, but also of pathologists of the National Cancer Institute. Specimens accessioned by the Registry will be available to visiting investigators for personal study. As the collection of specimens progresses, panels of specialists in pertinent fields will be asked to assist in interpretation and analysis of problematic material. All correspondence should be addressed to the Director, Registry of Tumors in Lower Animals, U.S. National Museum, Smithsonian Institution, Washington, D.C. 20560.

### Situations Vacant

SCIENTISTS wishing to become astronauts should apply before midnight on January 8, 1967, to the National Aeronautics and Space Administration. In conjunction with the National Academy of Sciences, the administration is inviting applications from United States citizens who are no taller than 6 ft. and born after August 1, 1930. A Ph.D. in science, medicine or engineering will usually be a qualification. Persons able to become naturalized as United States citizens before March 15, 1967, will also be eligible.

### Fall-out from Harwell

ONE uncovenanted benefit at the Atomic Energy Research Establishment at Harwell is a series of courses on production control by computer being organized by the Postgraduate Education Centre during October. The intention is to introduce production engineers