said that phase I is primarily a museum block, whereas the new building (phase IIIa) contains research laboratories and lecture and demonstration rooms.

The fourth floor is occupied by the Department of Anatomy, with a fine Dissecting Room at the western end and a Prosector's Room leading from it, in which anatomical teaching material is prepared. Running east from the Dissecting Room there is a corridor flanked by staff offices and research rooms where work is being done on the anatomy of conjoined twins, the nerve endings in the larynx, and in preparing material for electron microscopy. Research in this field is concerned with the structure of the nuclear cytoplasmic interface in normal and neoplastic cells; the electron microscopy of human gastric mucous membrane in relation to exfoliative cytology; and the electron microscopic changes produced in the prostatic epithelium of mice by hormonal stimulation.

At the western end of each story there is a large room, the size of the Dissecting Room, that on the third floor being used by the Departments of Physiology and Pharmacology as a demonstration room, with benches for experimental work. The research rooms on this floor belong to the Department of Ophthalmology, in which work is being done on the clinical applications of antibiotics in ophthalmology, with special reference at the moment to the possible exploitation of interferon in virus diseases of the eye; on the distribution and nature of refractive errors, especially on the optical components during growth; and on blindness, including both statistical and experimental studies. It has been established that the general pattern of retinal metabolism conforms to that of the brain, and work is being planned to seek for possible biochemical defects in the retina of rats and mice affected with hereditary degeneration of the retina.

It has been shown that sodium iodate, sodium fluoride, and a group of phenoxyalkanes can produce degeneration of the retina in the rabbit. Cysteine has been found to be effective in preventing the experimental degeneration induced by iodate and by iodoacetate, but is apparently ineffective against the phenoxyalkanes and fluoride. Work is proceeding to seek for other protective substances against both the experimentally induced lesion and spontaneously occurring blindness.

On the second floor of phase I is the main Museum of Pathology and some research rooms for the professor and his lecturers. This Department has now been able to extend into the new building, having a demonstration room at the west end and more laboratories in which at present work is being done on tissue culture and X-ray microscopy. The tissue culture work is designed to study the distribution of adenoviruses in the tonsils of normal persons in relation to age, and the incidence of virus infections of the lung. Organ culture is being carried out to assist the research already going on in the Department into lung cancer.

X-ray microscopy is being used to explore the possibilities of the method for elucidating the structure and constitution of cells and connective tissue, and to confirm by physical means some of the results obtained by histochemical techniques.

The first floor houses the Department of Dental Science, having the Odontological Museum at its western end. The research work of the Department is directed towards exploring the aetiology of pyorrhoea and dental caries. A morphological peculiarity of the interdental septum has been demonstrated whereby a trivial aberration of tooth eruption is liable to initiate a chronic ulcer between the teeth which progresses in some cases to the establishment of a pyorrhoea pocket.

On the biochemical side, research is proceeding into the amino-acid composition of enamel protein, and it has been shown that this protein is quite different from other skin keratins; and on the bacteriological side, a special study is being made of the organisms capable of living on enamel proteins.

A third problem engaging the attention of the Department is the determination of the earliest reaction of bone to metastatic deposits of carcinoma; and a study is also being made of salivary gland metabolism using radioactive tracers.

On the ground floor there are two committee rooms, a Fellows' Common Room, and an excellent lecture theatre to seat 140 students, a great asset to the College, which is, however, still short of lecture and demonstration room-space to meet all the requirements of its educational programme. The building of phase IIIb, which will complete the restoration of the College, is planned to make good these deficiencies.

THE ROYAL BOTANIC GARDENS, KEW

THE Students Day at the Royal Botanic Gardens, Kew, was held this year on May 7. Many universities, schools and training colleges were represented as well as members of a number of scientific societies. Altogether, about six hundred visitors were present. The exhibits this year were not restricted to the Herbarium but were spread over the various buildings and greenhouses at the north end of the Gardens.

Many of the Herbarium exhibits were concerned with the work of the taxonomist. Starting with the collection of plants in the field, there were demonstrations of drying and mounting leading to the ultimate naming and classification of the specimens. The work of the monographer was also demonstrated, with particular reference to the genus *Ficus* (figs), which includes nine hundred species.

A challenge to visitors was provided by an exhibit illustrating the classification of grasses. Two contrasting sets of specimens were displayed. In one, seven of the larger tribes were illustrated by herbarium specimens which were typical in respect of their inflorescences and spikelets. Contrasted with these were a number of non-typical examples from the same tribes, in which there were certain mutual resemblances. The compact spike-like inflorescence illustrated by *Chaetostichum minimum* in the Chlorideae, *Rhytachne rottboelloides* in the Andropogoneae and *Prionathum pholiuroides* in the Danthoneae were surprisingly similar. This apparent parallelism, however, was shown to be misleading, since diagnostic characters other than those of gross morphology are essential to the correct placing of a given species. The employment of other criteria such as the nature of

epidermal hairs, leaf anatomy, type of starch grains and basic chromosome numbers has led, in some instances, to a change in tribal position. Exhibits relating to the many Floras now being prepared at Kew were also on view in the Herbarium, while in the Library an interesting selection of botanical books and periodicals were laid out on the tables.

Many of the exhibits displayed by the curator and his assistants were primarily of horticultural interest other than text-book subjects, although some of the more popular species were also displayed. *Saxifraga* illustrating the astonishing diversity in habit, form and geographical distribution could scarcely have failed to impress the teacher as well as the student.

Another garden exhibit, illustrating methods of climbing in plants, showed a series of living examples, other than text-book subjects, although some of the more popular species were also displayed. *Semele androgyna*, for example, is known to most students as an example of cladode development, although few would have guessed it was a climbing plant capable of attaining a height of 35 ft. The exhibit staged by the Arboretum Department concerning seed storage was devoted to the problem of maintaining viability of certain seeds of deciduous trees and shrubs. Under natural conditions the seed is shed into a moist leafy medium, where it normally remains until germination. With seeds which are collected and stored, the requisite conditions of moisture and aeration can be simulated by placing the collected seeds—acorns, for example—in polythene bags together with damp peat and maintaining them at a temperature of 36° F. Viability can then be assured for several months. The problems involved in the germination of hard-coated seeds were also dealt with. The seeds of holly, *Pyracantha* and others with stony endocarps are subjected to 'stratification'. The seeds when gathered are placed in boxes of damp sand in successive layers and placed in the open. Here they are exposed to the elements for maybe a year or more, after which time the endocarps have become sufficiently softened to permit germination. Another method of accelerating germination depended

on the principle of vernalization. A sample of *Malus* seed had been maintained at a temperature of 36° F. for sixty days and then subjected to two 1-sec. dips at 10-min. intervals in water at 165° F. The seeds then showed radicle development at an advanced stage and a batch of seed so treated had actually germinated within a few days.

An impressive exhibit displaying methods of vegetative propagation demonstrated the use of various growth-promoting substances in the quick establishment of cuttings. The formation of callus in treated and untreated examples was illustrated, and the methods used in propagation by leaf, root and stem cuttings were also demonstrated. A working mist-unit which automatically maintains a constant humidity in a propagating house was also on view.

The exhibit in the Ferneries was notable for a fine display of young sporophytes of the rare monotypic *Regnellidium diphyllum*, a member of the Marsiliaceae; few students could ever have seen living specimens of this interesting South American genus. In addition, there were examples of the early stages in the development of the fern sporophyte and an interesting demonstration of the vegetative propagation of species of *Selaginella* and *Lycopodium*. These genera, which are difficult or impracticable to raise from spores, are in most cases readily raised from leaf or stem cuttings.

In the Jodrell Laboratory a number of exhibits were displayed to illustrate the multifarious activities of its staff. Besides demonstrations of the methods used in preparing materials for microscopical examination, several examples were shown of commercial vegetable products which had either been adulterated with worthless material or were completely spurious.

Finally, mention should be made of the exhibit shown in the Herbarium, prepared and loaned by the British Council, consisting of forty-four panels illustrating the history and activities of the Royal Botanic Gardens, Kew. Intended primarily for displaying overseas, they were quite excellent in presentation and were universally admired.

F. BALLARD

INFLUENCE OF EDITORS

THE question of how far an editor should go in correcting an author's manuscript was discussed on April 29 at a meeting of the Scientific Publications Council. Dr. G. E. W. Wolstenholme (Ciba Foundation) was in the chair.

Dr. R. D. Keynes (Cambridge) said an editor has a dual responsibility (a) to the author and (b) to the reader. Many authors submit manuscripts containing a long historical introduction and a discussion that is a wearisome repetition of the results. Sometimes the statistical evidence is inadequate, means are calculated incorrectly and the author gives figures that do not support what he says. However, conformity to a standard form of presentation should not be insisted on too rigidly, and in matters of taste the author should always have the last word. But an editor should insist on clarity; and he must be fierce in ensuring the accuracy of any data that are published. Some editors send the author a report from an anonymous referee, but anonymity is apt to cause resentment; an editor writing personally can

often be much ruder and more effective without causing ill-feeling. As a university teacher, Dr. Keynes was concerned at the number of text-books and symposium volumes that bear the names of eminent scientists as editors, but in which the so-called editors have not really done any editing at all. The frequent contradictions in the different chapters are troublesome to student and teacher alike. Editorial interference may be objectionable, but editorial neglect is worse.

Dr. A. S. Parkes (National Institute for Medical Research) agreed that an editor had many responsibilities; but in the long run the author bears the full responsibility for every paper bearing his name. In particular, an editor should not rely too much on a referee, who may well have his own axe to grind, and who, being anonymous, has no right to try to insist on major alterations to someone else's paper. He recognized fully, from his own experience, that young authors can benefit enormously from the constructive criticism of more experienced writers; but