



SATURDAY, MAY 30, 1925.

CONTENTS.

	PAGE
University Grants in Great Britain	825
Mendeliana. By Dr. W. Bateson, F.R.S.	827
Tropical Medicine in the Far East. By Dr. H. Harold Scott	830
Electrical Instruments	831
Our Bookshelf	832
Letters to the Editor :	
Wegener's Hypothesis and the Distribution of Micro-Lepidoptera.—Edward Meyrick, F.R.S.	834
The Intensities of Lines in Multiplets.—Prof. Henry Norris Russell	835
The Positive Electrical Drift in the Air.—Dr. William C. Reynolds	836
Ultra-violet Radiations and Antirachitic Substances.—Prof. J. C. Drummond and T. A. Webster	837
Luminescence of Solid Nitrogen and the Auroral Spectrum.—Prof. L. Vegard	837
The Elimination of Mental Defectives.—Major Leonard Darwin	838
Exaggerated Resonance.—Sir Oliver Lodge, F.R.S.	838
Quantum Radiation.—Prof. Alfred Lodge	838
Huxley's Contributions to the Study of the Invertebrata.—Prof. E. W. MacBride, F.R.S.	838
The Yeasts: A Chapter in Microscopical Science. By A. Chaston Chapman, F.R.S.	839
Dacca: an Experiment in University Education in India	842
Obituary :—	
Prof. Albin Haller, For. Mem. R.S. By Sir Wm. J. Pope, F.R.S.	843
Mr. H. Ling Roth. By Dr. A. C. Haddon, F.R.S.	844
Mr. R. B. Seager	845
Current Topics and Events	845
Our Astronomical Column	850
Research Items	851
Modern Investigations of Mental Imagery. By Prof. T. H. Pear	853
Periodicity in Weather and Solar Phenomena. By C. E. P. B.	853
The Tactile Sensory Reflex	854
The Liming and Chalking of Soils	855
University and Educational Intelligence	855
Early Science at Oxford	857
Societies and Academies	857
Official Publications Received	860
Diary of Societies	860
Recent Scientific and Technical Books	Supp. v

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University Grants in Great Britain.

THE University Grants Committee, appointed in 1919 "to inquire into the financial needs of university education in the United Kingdom and to advise the government as to the application of any grants that may be made by parliament towards meeting them," has grown into a position of authority and influence greater than its terms of reference seem, at first sight, to imply. In pursuing its inquiries year by year, not only does the Committee obtain a completer knowledge of the conditions of university work at a given moment, but it also acquires an ever deeper insight into the dynamics of university economy. Inevitably, and to the great advantage of the universities, attention is concentrated less on the problem how to "carry on" and more on the trends of existing activities, their fitness for the purposes they are supposed to serve, and the values of those purposes. While the Committee is careful to disclaim the wish to impose, or, indeed, the ability to propound, an ideal common policy, it cannot escape the necessity of attempting to evaluate conflicting university ideals. Each year since 1920 it has published statistical returns submitted by the universities and university colleges in receipt of Treasury Grant, and has prefaced the returns with introductory notes. This year the returns (for 1923-24) are published as an appendix to a comprehensive report,¹ forming a sequel to the Committee's first report dated February 3, 1921.

The present report surveys the whole field of university education in Great Britain in the light not only of the statistical returns, but also of observations made in the course of a series of visits of inspection carried out by the Committee in 1924 with the object of seeing what progress had been made since the similar visitation of 1920. The Committee found that these four years have been years of real progress in regard to conditions of service of university staffs, the standards of teaching and research, the provision of adequate buildings and equipment, and the development of the social life of the students. Further improvement under all these heads is, however, urgently called for, and it is therefore a matter of urgent necessity that the universities and colleges should do all in their power to raise additional funds from local public bodies, industries, and private benefactors. In order to stimulate such efforts, the Committee announces that in distributing any additional money that may be voted it will continue to take serious account, wherever that can fairly be done, of the extent to which local support has been forthcoming, without, however, being bound to any

¹ University Grants Committee. Report, including Returns from Universities and University Colleges in Receipt of Treasury Grant, Academic Year 1923-1924. Pp. 44. (London: H.M. Stationery Office, 1925.) 3s. 6d. net.

precise formula. It concludes with an exhortation to regard endowment funds as the central source of revenue, as only by the consolidation of a stable and substantial income from independent sources can the autonomy and progressive development of a university be assured.

Although there are now 57 per cent. more full-time students at British universities and colleges than before the War, their number is still comparatively small. The President of the Board of Education has lately directed attention to the fact that as yet less than 4½ per cent. of all the children in grant-aided secondary schools go on to a university, and less than 9 per cent. of elementary school children go on to secondary schools. Both of these proportions are likely to increase. The Committee points out that the increase in the flow of students from the secondary schools to the universities will inevitably tend to heighten the importance of close co-operation between the university and school authorities upon questions of curriculum and teaching method, and, it may be added, the importance of the methods of admission. At present it seems impossible for the schools to satisfy the university teachers, because these cherish two apparently conflicting ideals. On one hand, they decry "premature" specialisation in the schools and say they prefer students to come up to the university with a good foundation of general education. On the other, they want the schools "to relieve them of some of the less advanced work which they consider is now unduly taxing their time and energies, to the detriment of the higher studies which are the university teachers' proper business."

In the United States of America, where co-operation has been so close that admission has been largely by certificate of the completion of so many hours of high school work, there is urgent need, says the President of the Carnegie Foundation for the Advancement of Teaching, for the recasting of the existing entrance requirements so as to prevent the wholesale admission of the unfit and the consequent lowering of the plane of intellectual life. The Committee states explicitly that it does not think that in Great Britain there is any immediate danger of such evils, but adds that it may be well to remember, as we develop our plans, that there will be constant need for a clear conception of the true functions of university education. The Committee proceeds to indicate its own views on the question of these functions with reference to certain practical questions.

For careers in the higher branches of commercial and industrial business administration, as for the upper administrative divisions of the civil service, a university training is valuable, in the opinion of the Committee,

rather for the alertness of mind and capacity for taking broad views which it fosters than for specialised knowledge of the details of business. Dealing with the subject of the growth of specialisation, it notes with approval the policy of broadening the basis of the studies in all faculties, of breaking down the rigid barriers that specialisation tends to erect between subjects, and of insisting on giving students a clear sight of the wood as well as of the trees. The old antagonism of science and the humanities is giving place to a recognition of the fact that their proper relationship is one of active friendship, manifested, not by giving science students a smattering of the humanities, and vice versa, but by "the teaching of science and the humanities in such a way as to reveal their relationship to one another and their respective places in the wide world of human knowledge and endeavour." It would be difficult to find a more apt formula for expressing the philosophic point of view which should characterise the work of institutions of university standing.

From a consideration of the prospects of increased demands for university education, the Committee passes to the question of supply. The paragraphs which deal with this question will be read with dismay by those, if there be any, who have been looking to the Committee for encouragement of schemes for establishing new universities or colleges. First and above all, says the report, universities stand for quality, and although the capacity of organisations the essence of which is spiritual cannot be satisfactorily measured by money standards, the progress of university work under modern conditions is largely controlled by material factors.

For some years ahead, all the material support that can be expected from the State, from local authorities, and from private benefactors will be barely enough to keep British universities in a state of efficiency and provide for their expansion on a reasonable scale; nor are there sufficient grounds for believing that, given such expansion, they will not be able to meet all the needs likely to arise at much less cost than would be incurred in creating new universities or raising to the university level institutions which are now below it. In this connexion the Committee specifies 150,000*l.* a year as the minimum income for maintaining a university of the modern civic type with moderate-sized faculties of arts, pure science, medicine, and technology at the level of efficiency demanded by the requirements of the present day. It is perhaps in meeting with a steadfast and uncompromising "No" proposals with the objects of which the Committee is fully in sympathy, but which imperil the integrity of university standards, that the

Committee performs its greatest, if most disagreeable, service to the community.

Discussing the application of the policy of respecting the autonomy of the universities and, accordingly, recommending block grants in aid of general income rather than grants for specific purposes or to particular departments, the Committee makes some trenchant criticisms of the system under which the University of London is not in any real sense master in its own house: "Nowhere does the familiar problem of overlapping and duplication need to be more carefully and constantly watched than in London University, with its multiplicity of teaching institutions, and nowhere is the central machinery for dealing with it so inadequate." Perhaps the Departmental Committee now sitting will provide a solution of this problem.

Residential halls now accommodate only about 14 per cent. of the total number of full-time students of universities and colleges in Great Britain outside Oxford and Cambridge, and there is a strong demand for additional accommodation. Of the various types now in existence, the Committee favours that which approximates most nearly to the colleges of the older universities, providing not only board and lodging, but also a library and such amenities as gardens and tennis-courts, including among its residents some of the unmarried members of the university staff, and being under the supervision of a Warden of good academic standing. It specifies in some detail what experience suggests as the most important elements in halls of this type.

In the equipment of faculties of technology some institutions have endeavoured to provide full-scale apparatus, and thus to save their students from having to get experience and training in outside workshops and factories. The Committee discountenances such attempts, and holds that a selection of up-to-date plant sufficient for a thorough training in technological principles is all that a good university teacher needs.

The present needs and problems of universities in respect of these and many other matters, such as the status of university teachers, libraries, appointments boards, post-graduation scholarships, and adult education, are dealt with in the twenty-seven pithy and readable pages of this report in a way which gives it great value, not only for the institutions directly concerned, but also for universities in all parts of the Empire. It is an authoritative statement of the present position and prospects of the universities of the British Isles, and as such it should receive the earnest consideration of all who are in any way concerned with university or other higher education.

Mendeliana.

- (1) *Carl Correns: Gesammelte Abhandlungen zur Vererbungswissenschaft aus periodischen Schriften, 1899-1924.* Pp. ix + 1299 + 4 Tafeln. (Berlin: Julius Springer, 1924.) 96 gold marks.
- (2) *Gregor Johann Mendel: Leben, Werk und Wirkung.* Von Hugo Iltis. Pp. viii + 426 + 12 Tafeln. (Berlin: Julius Springer, 1924.) 3.60 dollars.

(1) **I**N honour of Prof. Correns's sixtieth birthday, the German Society for the Study of Heredity has reprinted most of his papers relating to genetical subjects. They compose a very substantial volume of 1300 pages. The subjects of this prolific labour have been numerous, but after his large work on cross-breeding the varieties of Maize, Correns has mainly been occupied with two of the most intricate problems of botanical genetics, the transmission of variegation and the determination of sex in plants. Regarding the first of these phenomena, owing to the vast diversity in the physiological nature of the several kinds of chlorophyll defect, general expressions are obviously unattainable. Variation, in fact, is a symptom. Everything depends on diagnosis, which though sometimes easy is commonly difficult and evasive. Through contemporary work, especially that of Correns, those who come after will at least find the facts set out ready to be disentangled.

The problem of sex-determination in plants is still more complex, and no simple and generally acceptable solution is yet in sight. The tendency of modern opinion is in favour of the view which Correns himself has advocated, that in dioecious plants the male is the heterogametic sex, but this interpretation is not wholly free from objection. In plants, as also to some extent in animals, an outstanding difficulty is the complete absence of any satisfactory account of the relationship of the hermaphrodites to the sexual forms. Correns was the first to observe the remarkable fact that in gynodioecious plants the offspring of females are generally in a large majority females, those of the hermaphrodites consisting predominantly, sometimes entirely, of hermaphrodites. This is now recognised as being only a special case of a system of inheritance governing that of a great variety of characters. The essential phenomenon is genetical inequality between the eggs and pollen-grains of the same plant, of which many examples are now familiar, the inheritance of double flowers in the Stock being the original and classical illustration. The simplest interpretation, to which many of us in England have inclined, is that a segregation, probably somatic, has occurred prior at least to maturation, but those who, like Correns, are unwilling to admit anything which conflicts with the