

There is no evidence to show that either structural or ontogenetic similarity, community of evolutionary origin, teratological co-incidence, or structural intergradation should be conceded prime importance in morphological considerations, and the morphologist should therefore be content to establish his homologies without resorting to arbitrary pronouncements as to their relative importance. Also, since almost all relations of similarity admit of degrees, it is preferable to state, for example, not that a carpel is a leaf but that it resembles a leaf, or even has a certain degree of 'leafiness', and similarly in the case of the homology between carpel and stem. Better still, it should be said that the carpel resembles a leaf in certain characters, remembering that the definition of a leaf in terms of its salient characteristics is itself a matter admitting of latitude. The leaf can be defined in respect of such features as lateral origin, determinate growth, hypothetical evolutionary origin, or any combination of these and other characters, and may thus be used in various senses according to convenience. This is not to assert, however, that the term 'leaf' is one of convenience only, but merely that the particular relations or homologies being considered may be selected within certain limits.

Whether there are, in fact, any basic characters or relations of similarity that should be regarded as funda-

mental is beyond the competence of morphologists to say. Such a problem, which involves teleological considerations, is at root philosophical and is only a special case of the larger problem of whether Platonic universals are admissible in scientific speculation. At the moment, the handling of such ideas falls far short of the precision that other methods of approach attain, and it would seem advisable, therefore, that the morphologist *qua* morphologist should maintain in their respect a cautious agnosticism.

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NEWS and VIEWS

Development of Atomic Energy in Britain

MR. ATTLEE stated in the House of Commons on January 29 that Lord Portal is to be head of the organisation within the Ministry of Supply responsible for making available material for the work on the use of atomic energy of the Research and Development Establishment at Harwell, Didcot. This Establishment, the formation of which was announced on October 29, is to deal with all aspects of the use of atomic energy, and Mr. Attlee emphasized that it will require fissile material in sufficient quantity as speedily as possible in order that immediate advantage may be taken of technical developments, and the British programme for the use of atomic energy developed as circumstances require. He also announced that Prof. J. D. Cockcroft, at present director of the Canadian Experimental Atomic Energy Plant, is to be director of the new Establishment at Harwell.

Prof. J. D. Cockcroft, C.B.E., F.R.S.

THE announcement of Prof. J. D. Cockcroft's appointment will be received with keen satisfaction by all interested in the future development of nuclear power in Great Britain. Dr. Cockcroft was appointed to succeed Sir Edward Appleton as Jacksonian professor of natural philosophy in the University of Cambridge in May 1939; but before he was able to enter on his new duties, war had been declared and he found himself urgently in demand as advisor to many Government departments. Throughout the years which followed, he has never been free to give consecutive attention to university matters—holding the posts first of director of the Air Defence Research and Experimental Establishment (later R.R.D.E.) of the Ministry of Supply (at Christchurch and at Malvern) and then of director of the Montreal laboratory of the National Research Council of Canada. Yet, in spite of this, those who spent the war years in Cambridge will testify to the amazing volume of

business which Prof. Cockcroft contrived to transact during his hastily announced overnight visits. The variety of this business would have been surprising had it not been that his normal peace-time activities were themselves so varied. Most of the major achievements of the Cavendish Laboratory during the past fifteen years owe something, many owe much, to his intervention. Whether it has been the design of equipment for Kapitza, or of special-purpose magnets for Rutherford or Ellis, whether the planning of the new research laboratory (Austin Building) or the building of the cyclotron or the high-voltage installation, his advice has been universally sought and freely given. He will find problems of organisation and development of even greater magnitude awaiting him in his new post: upon his success in solving them much may well turn, not least in portance, perhaps, the vitality of the whole of the Scientific Civil Service of Britain.

Constitution of the New Anti-Malarial Drug, 'Paludrine'

IMPERIAL CHEMICAL INDUSTRIES, LTD., are now disclosing the constitution of 'Paludrine', the new anti-malarial drug discovered by I.C.I. and announced in November. 'Paludrine' is N_1 -*p*-chlorophenyl- N_5 -isopropylbiguanide, and is used in the form of a salt, such as the hydrochloride. Full details are being published in the *Annals of Tropical Medicine and Parasitology*. A provisional process for manufacture has been worked out, and it is confidently expected that the cost of treatment by 'Paludrine' will be appreciably below that by mepacrine, the synthetic anti-malarial drug used during the War. Semi-scale manufacture is already going forward at Blackley, Manchester, and will be extended at Grangemouth, Scotland, where, during the War, I.C.I. erected a new plant specially designed for the making of mepacrine. Details of a process for full-scale manufacture of