Terminology in Biology

DR. C. D. DARLINGTON[1] raises a very important point in his condemnation of words which should be dead but are still in biological currency. Every teacher and every author of a text-book will sympathize. The beginner in biology has a hard enough task without having to be plagued by a spate of alternative terms, an infliction which too often leads him to think that all he has to do is to learn these terms and their synonyms in order to 'know' his subject. To many students, a thing is known and understood as soon as a label has been attached to it. There is little wonder that biology is so subject to the reproach that it is nothing but a jumble of difficult words.

Unfortunately we are in a vicious circle. The teacher feels bound to give the alternative terms in case the student comes across them in his reading, and the author of a text-book considers it his duty to give the synonyms because teachers vary in their usage. Unless something is done, we shall have with us for evermore 'anterior vena cava', 'superior vena cava' and 'precaval vein'; and 'antherozoid' and 'spermatozoid'; and the host of alternative names for the female gametes of plants.

Cannot biologists get together and draft a list, with clear definitions, of the technical terms in common usage in botany and zoology? The selection should not be based on priority of introduction, but on commonsense suitability and expressiveness (for example, 'neural tube' is surely more understandable to the student than is 'medullary tube', and 'antheridium' is certainly preferable to 'pollinodium'). Possibly the British Association could take up this matter, or maybe the Association of British Zoologists would be willing to co-operate with a group of botanists in an attempt to clean up the present confusion.

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[1] NATURE, 143, 206 (1939).

Points from Foregoing Letters

THE possibility of an evaporation of neutrons in connexion with the recently discovered explosion of the uranium nucleus after neutron impact is discussed by Dr. H. von Halban, jun., Prof. F. Joliot and Dr. L. Kowarski. The density distribution of thermal neutrons obtained by slowing down photo-neutrons from a Ra γ - Be source was studied in a solution of uranyl nitrate and in an equivalent solution of ammonium nitrate. At great distances from the source the uranyl solution showed an excess interpreted as a proof of the existence of the effect discussed.

Prof. L. Meitner and Dr. O. R. Frisch have collected recoil nuclei resulting from the fission of uranium nuclei, by placing a water surface near the bombarded uranium layer. From chemical tests and decay curves, the authors conclude that a considerable part of the collected activity corresponds to the 'trans-uranium' elements previously studied by Hahn, Meitner and Strassmann. Consequently the 'trans-uranium' decay periods must result from a fission of the uranium nucleus and therefore have to be assigned to elements considerably lighter than uranium.

Experiments are described by Prof. E. Friedmann, A. K. Solomon and N. T. Werthessen which give the relative amounts of radioactive bromine ^{82}Br introduced into organic compounds by means of two processes—Sandmeyer's reaction and the addition of bromine to a double bond. The second method yields a higher concentration of radioactivity.

S. R. Craxford, G. H. Twigg and Prof. Eric K. Rideal point out that, contrary to the views of L. and A. Farkas in the catalytic exchange reaction between deuterium and olefines, the elementary step involves the addition of a deuterium atom and not a loss of a hydrogen atom. There is also evidence that in the chemisorption and rupture of saturated hydrocarbons on a catalyst surface, chemisorbed hydrogen plays a part. If this receives confirmation, a simple mechanism can be proposed permitting an interpretation of the great variety of chemical reactions which hydrocarbons can undergo at catalyst surfaces.

Dr. A. Neuberger contends that the evidence for the cyclol hypothesis, derived from the phenomena of denaturation, of molecular weights and regularities in the amino acid composition of proteins, can be otherwise interpreted. He claims that one may arrive at a globular structure for the protein molecule by postulating, instead of cyclol bonds, other types of bonds which are already known to exist. A reply to Neuberger's suggestions is given by Dr. Dorothy Wrinch on p. 482.

The biological activity of various fractions of a whale-liver oil concentrate (fractionated by adsorption in a calcium hydroxide column) is found by H. Willstaedt and Dr. H. B. Jensen to be considerably lower than would have been expected from the antimony trichloride reaction, but greater than shown by the ultra-violet absorption. Apparently the whale-liver oil does not contain the active substance with an absorption maximum at 344 mμ but may contain another hitherto unknown substance having the biological action of vitamin A.

The liberation of negative ions from a wire gauze inserted between the cathode and the first slit of a mass-spectrograph is reported by R. H. Sloane and Miss Eliza B. Cathcart. The ions so emitted under negative ion bombardment, like those produced by positive ion bombardment, show excess energies.

The role of the enzyme diaphorase as a hydrogen carrier is discussed by V. R. Potter, who concludes that diaphorase is a widely distributed, powerful, malonate-insensitive enzyme which catalyses the transport of hydrogen from dihydrocozymase I to natural carriers capable of bringing this hydrogen ultimately into combination with oxygen.

C. W. Emmens reports that, while his colonies of ovariectomized mice exhibit time-to-time variation in sensitivity to injected œstrone, the variations do not show any regular trend.