

I, also, reached this conclusion long ago and in 1924 suggested a form of wording for the definitions of these quantities for insertion in the B.S.I. Glossary which was compatible with this point of view. These definitions raised a storm of criticism at the British Association meeting at Oxford in 1926, with the result that (a) the offending definitions were removed from the Glossary; and (b) there was formed that British Association Committee on Units over which Sir James Henderson himself presides.

It will be interesting (to me at any rate) to see whether other members of the Committee will follow their chairman's lead; and if they do, whether my definitions will be reinstated and whether  $\mu_0$  will be jettisoned once and for all.

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### Statistics of Birth-rate Problems

IN NATURE of April 3, p. 565, a passage is quoted from a recent book of mine in which reference is made to the work of Dr. R. Kuczynski in developing statistical methods of dealing with birth-rate problems. While it is obvious to a reader of the book that I was not making any attempt to give a full account of the development of statistical methods in this field, the mention of one name only in the sentence quoted may seem to imply a neglect of the work of others. Therefore, in order to correct any misapprehensions which the quotation of this sentence may have caused, I should like to direct attention to the earlier work of R. Boeckh and of A. J. Lotka, of which an account will be found in the *Annals of the American Academy of Political and Social Service*, November 1936.

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### Points from Foregoing Letters

Using radioactive phosphorus as indicator, a group of investigators from the University of Palermo have determined the relative amounts of inorganic phosphorus (sodium phosphate) taken up by different organs when injected into young rats. Subsequent analysis shows the presence of radioactive organic (lipidic) phosphorus in liver intestine and kidney, in much greater amounts than in muscle or brain. This indicates, according to the authors, that "the participation of the phospholipids . . . results in a complete synthesis starting from inorganic phosphorus".

From observations made in Melbourne on the wave-form of the electromagnetic pulse radiated from lightning flashes (giving rise to atmospherics), Prof. T. H. Laby, F. G. Nicholls, A. F. B. Nickson and Dr. H. C. Webster find evidence of multiple reflections between the earth and an ionized layer at an 'equivalent' height of 78-82 km.

Prof. V. A. Bailey reports observations supporting his theory of the interaction between radio waves. Several European stations have collaborated in sending out suitable radiations. Interaction was observed in one case, caused by a gyro-station with a radiated power of only five kilowatts. Comparative tests with London National and London Regional show the existence of resonance in interaction.

Dr. M. S. Vallarta states that the constant intensity of cosmic radiation beyond a certain latitude may be accounted for by a magnetic action of the sun, and that the value of its magnetic moment calculated from the latitude effect leads to a value of the field intensity at the sun's surface in good agreement with that found by Hale and his collaborators. Two observable consequences of this interpretation are discussed.

That certain spectrographic lines and bands of interstellar origin observed by Merrill may be due to the presence of molecules ( $\text{Na}_2$ ,  $\text{NaK}$ ) is suggested by Prof. M. N. Saha. He points out that 'temperature' in interstellar space is near the absolute zero, and that only such states of atoms and ions occur there as have infinitely long life.

G. C. E. B. Hulbert and Prof. C. M. Yonge give reasons for inferring that the function of the osphradium in gastropods is to estimate the amount of sediment carried into the mantle cavity by the water currents created by the lateral cilia on the gills.

Drs. Donald and Alistair Gunn and Miss P. M. Jenkin have collected records which, they state, show that there is no lunar periodicity in human menstruation.

By irradiating (with radium) cells *in vitro* held at a temperature of  $6^\circ\text{C}$ ., so that active cell life is inhibited, and afterwards allowing the cultures to develop, Prof. L. Halberstädter and L. Doljanski have succeeded in establishing a numerical relation between the amount of growth inhibition and the dose of rays applied.

A number of elements (molybdenum, silver, bromine, antimony, etc.) when bombarded with neutrons are found by F. A. Heyn to give radioactive substances with half-periods corresponding to those obtained when gamma rays are used. This, he points out, is additional evidence that a neutron entering the atomic nucleus may expel two neutrons with the production of a radioactive body.

The absorption spectra, and hence the optical rotatory power, of cobaltammines are, according to Messrs. C. H. Johnson and N. H. Poynton, affected in a specific manner by substitution of  $^2\text{H}$  for  $^1\text{H}$  in constituent  $\text{NH}_3$  or  $\text{NH}_2$  radicals. Measurements of optical rotation can thus decide the isotopic composition of a complex ion or of a solvent in equilibrium with it.

Prof. B. C. Guha and J. C. Pal state that alcoholic and ethereal extracts of cabbage give a higher ascorbic acid value on heating in nitrogen, even if the estimation is carried out after mercuric acetate treatment. Further evidence is offered for the existence of combined ascorbic acid in cabbage. The dye-reducing value obtained after heating chloroform extracts of cabbage disappears in large measure by the action of ascorbic acid oxidase, suggesting that the substance produced on heating is ascorbic acid.