

Although fully appreciating Mr. (and Mrs.) Dufton's contribution to the economics and technique of stewing, we would point out that :

(1) high temperature ovens are required for other dishes ;

(2) the cooking of meat and, incidentally, of other foods, has been studied scientifically, though not exhaustively ;

(3) many people consider the appearance and flavour of outside cuts to be worth the trouble and expense of roasting.

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¹ Vide "The Boston Cooking-School Cook Book", revised edition, 1933, p. 239 *et seq.*

² NATURE, 136, 796, November 16, 1935.

Food and the Nation

I WAS disappointed not to find in the article under this heading in NATURE of November 18 any reference to the change that has taken place during the last half century in the manufacture of white bread.

In my young days, flour was produced by grinding wheat between millstones, whereby the skin of the grain (not the husk) was preserved in the flour. A notion having got abroad that the excellence of bread is in proportion to its whiteness, steel rollers

were made to replace the millstones, whereby the grain was stripped of its dusky skin, with its valuable vitamin contents, and the baker was enabled to produce a whiter loaf.

Simultaneously with this change has grown the manufacture of margarine, coloured and flavoured to resemble butter, but with little, if any, of its nutritive quality. It is distressing to see children in our large cities fed chiefly on white bread and margarine.

In India, rice—the staple food of millions—is now milled in the same drastic way as wheat is in Europe, resulting in widespread mortality from beriberi.

Stone-ground flour is still produced in Great Britain. My own household is supplied with it from a mill in Horsham, and the bread baked from it is more agreeable in taste than the baker's ultra-white.

HERBERT MAXWELL.

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Wigtownshire.

WHAT Sir Herbert Maxwell says with regard to the loss of nutritional value through the widespread use of white bread and margarine is no doubt true enough ; but omission of reference to this point does not affect the economic relationship between food-production and consumption, with which the article was particularly concerned.

Editor, NATURE.

Points from Foregoing Letters

Helium produced from boron by neutron bombardment has been purified, observed spectroscopically, and measured by Prof. F. A. Paneth and H. Loleit. This seems to be the first case where an artificially produced element has been detected spectroscopically and measured by other than radioactive methods.

Dr. L. Szilard states that slow neutrons filtered by thick sheets of a strongly absorbing element like cadmium are strongly absorbed by thin sheets of indium and some other elements, though cadmium itself is transparent for such residual neutrons from cadmium. This is in contradiction to the conclusions usually drawn from current theory. The residual neutrons from cadmium show strong selective absorption effects, and are in some elements more absorbable than the unfiltered beam.

Dr. Hans von Halban, Jr., and Dr. Peter Preiswerk have determined the degree of activation produced in a silver plate by neutrons (from a radon-beryllium source) slowed down by passing through various thicknesses of water, alcohol, benzene and liquid paraffin. The difference in the effects observed suggests that the molecular structure of those compounds may affect the amount by which the velocity of the neutrons is reduced. The authors believe that the neutrons part with some of their energy in order to excite rotation and oscillation of the hydrogen atoms in those compounds.

A modification of Born's theory of the electromagnetic field has been suggested by M. H. L. Pryce to explain the existence of two different kinds of charged particles, electrons and protons, both with the spin $\frac{1}{2}$. Dr. Max Born calculates the mass of the proton by means of formulæ derived from that theory ; he arrives at the value 2,400, which is of the right order of magnitude. He points out that the

theory allows for the transformation of a proton into a positron, with emission of radiation quanta of one thousand million electron volts, such as are found in cosmic rays.

T. L. Eckersley maintains that, notwithstanding the criticisms of Farmer and Ratcliffe and of Prof. Appleton, his previously suggested formula for the calculation of the frequency of collision of electrons in the upper atmosphere gives sufficiently accurate results.

Dr. R. D. Desai and Prof. R. F. Hunter state that they have carried out further experiments with methylcyclohexanones in order to test the Sasche-Mohr hypothesis, according to which four isomeric forms of certain derivatives of these compounds should exist ; but so far, they have been unable to obtain more than two isomeric cyanoarylamino derivatives.

C. W. Parsons reports that a pair of South American lung-fishes, living in a wooden tank containing mud and partly filled with water, maintained at 20° C., have bred after a period of some months during which they have been disturbed as little as possible. Twenty-two young fish (just post-larval) have appeared at the surface, representing the brood. This seems to be the first record of this fish breeding in captivity.

Knut Fægri states that, in dealing with biological classification, it is preferable to speak of "lines of evolution" rather than species. A line of evolution is a sequence of generations, the individuals of each generation grouping themselves according to the law of probability with regard to all essential features. Only by regarding the species as a momentary expression of the line of evolution, Mr. Fægri states, can the species concept be kept in conformity with the theory of evolution.