

The Complete Slimmer

By Prof. John Yudkin. Pp. 191. (London: MacGibbon and Kee, Ltd., 1964.) 30s.

IN his opening chapter Prof. Yudkin says that all of us are overweight who weigh more than we did when we were reasonably slim and trim in our twenties. But, having depressed at the outset most of his readers who are more than thirty years of age, Prof. Yudkin proceeds to give sympathetic consideration (and understanding) to our plight and provides a fairly simple way out of the dilemma.

His 'carbohydrate unit diet' is a method of reducing carbohydrate intake without directly altering the intake either of protein or fats. This is achieved by the allocation of so many carbohydrate units daily, the units being calculated from a table which is provided. Each carbohydrate unit is equivalent to 5 g of carbohydrate, and a test period of 15 units a day for two or three weeks is advocated to see what the effect is. If the weight reduction is regarded as being too fast or too slow the unit allocation can be adjusted accordingly. The table of carbohydrate units is illuminating. A raw apple represents 2 units (10 g), a glass of sweet wine 4 units (20 g) and one piece of 'Vitaweat' $1\frac{1}{2}$ units ($7\frac{1}{2}$ g). An examination of this table brings an understanding of the increase in weight since the slim and trim twenties. One begins to recall glasses of sherry consumed over the years together with a decrease in the habit of running for buses. Innumerable lunches and dinners are remembered, while recollections of 20-mile country walks fade into the distance. At last the truth begins to dawn; in this affluent society we eat and drink too much and exercise too little.

Prof. Yudkin utters a warning against the numerous fads and miracle diets which appear annually, and he arms us with reason against the blandishments of the copywriters. For those who have a sufficiently strong desire to return to the slim and trim twenties, Prof. Yudkin undoubtedly provides a blueprint. Whether or not it is followed must remain an individual choice; but the efficacy and strength of his argument will be greatly helped by the purchase of a pair of bathroom scales.

P. D. NUTTALL

Le Développement du Vivant par Lui-Même

Par P. Wintrebert. Pp. 456. (Paris: Masson et Cie, 1963.) F. 44.

THIS second volume (the first was *Le Vivant, Créateur de Son Évolution*; see *Nature*, 198, 117; 1963), which deals with embryogeny, concludes Mr. P. Wintrebert's thesis, the content of which is intended explicitly for the rehabilitation of the living being. Faced with two prevailing currents of contemporary biology the author writes strongly against: (1) genetics, which he considers to be a mechanism illusively rejuvenated by the transfer from the physical to the microphysical level of explanation; (2) causal embryology, a preformist idealism disguised under pseudo-scientific categories. "The two conceptions diminish the intervention of the living . . . in a very different way, either supernatural, by exalting its power, or natural, by degrading it" (p. 282).

The chemical Lamarckism of Wintrebert is essentially 'vitalism': the protoplasm alone is alive, alone has the 'intelligence' and the ability to change itself by adaptation. It is also 'epigenetism': everything, at every moment of development, is actually present, and everything leads to a functioning result. There is no entelechy, no 'organizers', only protoplasm, paraplast (some mitogenous activities of which have misled Speman and his successors) and genes. The absolute precision of the sequences is assured by the successive and orderly combinations, to the primitive protoplasm, of the genes which, during evolution, have accumulated 'adaptive hormones'

elaborated by it. Evolution is therefore additive and irreversible: as opposed to Sewertzow and de Beer, Wintrebert considers that there can be no possible deviations other than, at the most, untimely interruptions due to lesions of the genes or to the circumstances of the environment (neoteny) and some lateral coenogenetic adaptations (like aneural motricity of the embryo). From the cellular to the pluricellular state and to the organic, the individual, as Haeckel would have it, moves, through a succession of first physiological and then phylogenetical mutations, the same way as its ancestors; but this recapitulation is essentially chemical, it generally saves the useless transitional forms. Therefore, it is, contrary to the theory of de Beer, phylogeny which constructs ontogeny and, contrary to the theory of Weissman, the soma which builds up the germline.

The book also includes two original chapters of first importance on the development of *Discoglossus* and the dog-fish: after sixty years of observation, Wintrebert is in opposition on quite a number of essential points (fertilization reactions, gastrulation, origin of the gonads) to the classical descriptions. An appendix offers some reflexions on intelligence, cancer and biological ethics.

Though the reader will not always agree with Wintrebert's ideas he will enjoy the brilliancy of the remarks, the desire for clarity in the descriptions and discussions and, above all, the lesson in independence, which does not exclude fidelity to a tradition of thought: the diffusion of such activating substances within the body of a still embryonic science should not fail to help him to pass successfully through the unforeseeable course of its mutations.

J. LESSERTISSEUR

Treatise on Analytical Chemistry

Part 1: Theory and Practice, Vol. 4. Edited by I. M. Kolthoff and Philip J. Elving. Pp. xxv+1751-2705. (New York and London: Interscience Publishers, a Division of John Wiley and Sons, Inc., 1963.) 189s.

THIS volume deals concisely and comprehensively with one of the most neglected fields of analytical chemistry. The book covers magnetic field and electrical methods of analysis. Each subject is divided up into several excellently written, clearly illustrated chapters. It is a complete definitive and authoritative source of information for all analytical chemists working in this rather specialized field.

Magnetic field methods are covered in four chapters, magnetic susceptibility (125 pp., 238 refs.), nuclear magnetic and electron paramagnetic resonance (69 pp., 140 refs.), mass spectrometry (106 pp., 305 refs.) and ion-scattering methods (32 pp., 21 refs.). The section on mass spectrometry by Melpolder and Brown is worthy of special note as it critically, and yet lucidly, interprets the principles, practice and uses of this precise instrument, covering both organic and inorganic analytical applications. The comprehensive reference system makes this an excellent review article.

Electrical methods of analysis are sub-divided into eleven short chapters. These cover the scientific and instrumental fundamentals of this field. If any criticism can be levelled at the treatment of this subject, it might be that the large number of sub-sections causes a certain degree of overlap and a smaller number of larger chapters might have been better. Articles dealing clearly and comprehensively with electrochemical techniques (66 pp., 94 refs.), potentiometry (30 pp., 72 refs.), polarography (68 pp., 347 refs.) and coulometric analysis (49 pp., 258 refs.), to mention only a few, provide a wealth of information for the practical and theoretical worker alike.

In short, this edition more than justifies the fine reputation established by its predecessors, its only disadvantage being that it is rather expensive for individual purchase. It is, however, a must for all libraries associated with analytical laboratories.

J. THOMSON