The Metallurgy of Bronze. By H. C. Dews. (The Specialists' Series.) Pp. ix + 147. (London: Sir Isaac Pitman and Sons, Ltd., 1930.) 12*s.* 6*d.* net.

In 1903, Heycock and Neville published their study of the copper-tin alloys, one of the classics of metallurgy, and the work of later investigators, which has filled in the gaps in their account, has only confirmed the accuracy of their diagram and their foresight in adopting long periods of annealing as a means of obtaining equilibrium. The bronzes are of great technical importance, and an account of their composition and uses, by a metallurgist accustomed to handling them in industry, is therefore to be welcomed.

This little book, high in price for its size, is well printed and contains the information most necessary to those who have to use bronzes for casting and other purposes. The term 'bronze' is taken in its proper sense, as meaning copper alloys in which tin is the principal added metal, but including complex bronzes, of which many now exist. There are some misprints, and the theoretical treatment of the subject is weak, the account of the iron-copper equilibrium on p. 84 being quite inaccurate. Most of the illustrations are good, but Figs. 9, 13, 14, 15, and 22 are merely black smudges, which is the more remarkable since these alloys give very clear structures when properly etched. The book will be of special use to foundrymen.

Impurities in Metals: their Influence on Structure and Properties. By Dr. Colin J. Smithells. Second edition, revised. Pp. xiii + 190 + 26 plates. (London: Chapman and Hall, Ltd., 1930.) 18*s.* net.

The first edition of this book was well received by metallurgists, and a second has been called for. In addition to general revision, which has much improved the work, the subject of gases in metals has now been discussed in detail, mainly, however, in connexion with the non-ferrous metals. A fuller account of the state of knowledge concerning gases in steels, admittedly a controversial subject, would have been useful. The subject being the effect of impurities on the properties of metals, the section on magnetic properties might well have been expanded, in view of the enormous influence of even very minute quantities of impurity, of great theoretical significance as well as practical importance. Should another edition be required, the section on corrosion will also need expansion. The author's special acquaintance with tungsten enables him to illustrate several points by reference to that metal.

Metallurgists whose interest is in steel will be disappointed by the omission of many matters of importance to them which might have been included, but on the whole this attractively produced work will be found to contain a large amount of valuable information on a variety of metallurgical subjects.

Miscellany.

The Scientific Journal of the Royal College of Science. Vol. 1: containing Papers read during the Session 1930–31, before the Imperial College Chemical Society, the Royal College of Science Natural History Society, the Royal College of Science Mathematical and Physical Society. Pp. 158. (London: Imperial College Union, 1931.) 3*s.* 6*d.* net.

This publication, which appears as a result of collaboration between the three student societies named, may conceivably meet with criticism from some readers on the ground of redundancy, seeing that the substance of its most important papers can probably be found in print elsewhere. Others will discern in it a token of the vitality of the societies concerned. Moreover, it is apparent that a student journal of this type can fulfil an important service in broadening the interests of the members of each of the contributing societies. This result can only follow, however, if a judicious selection of the published papers is maintained: besides the more specialised papers, each section of the journal should contain at least one paper of general interest.

The first issue conforms to this criterion through the inclusion of instructive lectures on "The Life and Work of W. H. Perkin, Jun." (Prof. J. F. Thorpe), "Plant-Breeding" (Prof. F. L. Engledow), and "The Nature of Vowel and Consonant Sounds" (Sir Richard Paget). The biographical sketch of England's greatest organic chemist is full of interesting detail; and we cannot refrain from quoting a neat expression of a reflection which must occur frequently to all who experience the joys and sorrows of supervising organic chemical research: "It would appear, in fact, that these great manipulators possess some power which ordinary beings lack—some radiation from the eye, or some force which passes from them to the reaction vessel and compels the material to behave in the desired manner. Otherwise it seems impossible to account for the fact that compounds which in the hands of the ordinary research student remained, and would always remain, as an intractable gum, in Perkin's hands rapidly assumed the form of splendid crystals of undoubted homogeneity and purity." J. R.

An Outline of the Universe. By J. G. Crowther. Pp. xvii + 376 + 24 plates. (London: Kegan Paul and Co., Ltd., 1931.) 12*s.* 6*d.* net.

This brilliant and useful book deserves a warm welcome. The author describes it as the first attempt he knows in a new and necessary craft—"the conveyance of the atmosphere and facts of recent scientific research to the public, the conveyance of atmosphere being the more important part". He has certainly managed to compress into a smaller space the latest results in astronomical, physical, and biological science than any other writer we know; in fact, there is nothing quite like it, and Lord Rutherford's commendation is well deserved.

Mr. Crowther has divided the field into three approximately equal areas—the universe (in the astronomical sense), the atom, and life. On each of