

relating to the rôle of the nucleus and the chromosomes in development. Another section gives a short account of the chondriosomes, while the final chapter is concerned with the nucleus in the Protista and the nuclear relationships in plants.

The book is well illustrated and excellently produced. While it can scarcely appeal to a wide circle of readers, it will be of great service to all those who wish to be informed concerning the results arising out of the work of the last twenty years on this subject. The cytologist will find it indispensable for reference, and biologists generally will turn to it for the more recent work relating to these problems.

R. R. G.

Our Bookshelf.

Aircraft in Peace and the Law. By Dr. J. M. Spaight. Pp. viii+233. (London: Macmillan and Co., Ltd., 1919.) Price 8s. 6d. net.

THIS is a useful attempt to put before the public the main issues of international law relating to the air. In every new development of modern invention, law-making authorities are faced with the difficult task of applying old principles to developments not contemplated when those principles were formulated, and with such a revolutionary departure as the modern aircraft there is a grave risk of deception by a false analogy. The British method has been to apply as far as possible the principles of the Merchant Shipping Acts to aircraft. The idea is lacking in boldness and imagination, for there is little parallel between the two forms of navigation in relation either to the problems of the navigators themselves, or to the rights and liabilities of the public at large. Generally speaking, however, a wise caution has been exercised by those who framed the International Convention. From another point of view the fundamental issue in aerial navigation is the sovereignty of the air, and on this England reserved her opinion. Continental Powers, without exception, clearly realising the serious military problems before them if all comers were allowed unrestricted flight above their territories, maintained in full their dominion in the air above their lands and territorial waters. England, on the other hand, had a different problem to face. No aerial highway of any importance crosses her frontiers in any part of the world, but nearly all the aerial routes which link up her scattered dominions do almost invariably cross the territories of other nations; she ought, therefore, her aerial experts maintained, to hold out for free flight.

It would seem that this view exaggerated the difficulties put in the way of innocent traffic by the maintenance of sovereignty, and minimised the dangers of sudden invasion. We must not forget that the economic interests of Great Britain are just as dependent on military security as they

are on theoretical freedom of transport, and therefore Dr. Spaight would seem to be quite correct in urging the maintenance of the doctrine of the sovereignty of the air. Popular panic is a disaster only less serious than actual assault. The book is well arranged and indexed, while the writer's comments on what is as yet almost an untested department of law of exceptional difficulty, are acute, unprejudiced, and well-informed.

W. B. F.

Wireless Telegraphy and Telephony: First Principles, Present Practice, and Testing. By H. M. Dowsett. Pp. xxxi+331. (London: The Wireless Press, Ltd., 1920.) Price 9s.

THE object of this work is to provide a connecting link between the various elementary textbooks, intended for those taking up the study of wireless telegraphy, and advanced treatises dealing with particular aspects or branches of the subject. It does not aim at completeness, but usefully develops certain parts of the theory and practice involved. The author insists upon an adequate appreciation of the structure of the atom and the part played by its constituents for a clear understanding of the phenomena met with in wireless working, and puts forward conceptions which, if not presenting a perfectly true scale model of the atom, at any rate are helpful in fixing the ideas. Another theoretical chapter leads up to explanations of some of the methods used in spark and continuous-wave transmission; and perhaps the most important sections of the book deal with the thermo-ionic valve and the modern methods of its employment for both reception and transmission, upon which so much of the recent advances depends. Other developments dealt with are high-speed automatic transmission and direction finding. A considerable portion of the book is devoted to systems of measurement of electrical quantities adapted to wireless telegraph testing. The author concerns himself only with up-to-date methods, and historical matter does not form part of his scheme.

Chimica delle Sostanze Esplosive. By Prof. Michele Giua. Pp. xvi+557. (Milano: Ulrico Hoepli, 1919.) Price 28 lire.

THIS treatise is written from the point of view of the laboratory chemist, and contains a very full account of the chemistry of explosive compounds. The author bases his work on that of Berthelot, and develops the theoretical treatment of explosive reactions on thermochemical lines. When dealing with the propagation of explosions through gases, the work of British investigators is practically unnoticed, and although a few references to papers do indeed appear in a table, they are omitted from the index. The treatment of this part of the subject thus appears to be rather superficial. The explosive compounds are described fully, and brief, but clear, accounts are given of the plant used in their manufacture. This section, with its numerous references to the litera-