through the open mouth showed some lateral deviation of the odontoid, probably due to unequal yielding of the atlo-axial ligaments. The treatment in the first place consisted in placing the patient supine, and supporting the cervical spine forward by means of a rounded wooden support. The weight of the head as it hung over this support dragged back the atlas into position, and produced immediate relief of symptoms.

The prognosis in atlo-axial disease, if detected in time, was good; if not detected, the condition was apt to end fatally and suddenly by compression of the medulla by the odontoid. Photographs and diagrams illustrating the condition were shown.

Dr. ORAM explained the radiogram, and referred to the difficulty of getting a photograph through the mouth owing to the mechanism used for immobilizing the neck. A film was utilized instead of a plate for the purpose. The film, being flexible, could be moulded to the curve of the pillow, and was thus in contact with the back of the neck.

Colloidal Preparations.

Dr. R. W. MACKENNA read a paper on some experiences in the use of colloidal preparations, based on two years of clinical observation. After a short review of the history of colloidal medication and of the character and methods of preparation of colloidal solutions, he detailed some interesting clinical observations. His conclusions were that in colloidal solution of manganese a very remarkable addition had been made to our equipment for dealing with suppurative processes, while colloidal sulphur might claim certain advantages over any other preparation of sulphur available in therapeutics. He did not think that colloidal preparations of silver possessed any special advantages over the older preparations of silver used with discretion and knowledge. Colloidal copper he had found to be quite useless in cases of inoperable malignant disease, and he was firmly persuaded that colloidal mercury would never displace the other older forms of that drug. Colloidal iodine had certain advantages. In the concluding part of his paper he sought to explain upon what the peculiar therapeutic properties of colloidal preparations depend. This was still obscure, and many attempts at explanation had served only to make the obscurity darker still. Dr. MacKenna was of opinion that much of their value depended on the state of extremely fine division in which the particles of the "disperse phase" were found. This afforded, relatively to the mass of the drug employed, an enormous surface area for contact between the tissues and the remedy, and at the same time supplied to the system a dépôt of medicament from which slow, constant, and progressive absorption in the form of true solutions might take place.

THE first meeting of the 1920–21 session of the Nottingham Medico-Chirurgical Society was held in the society's rooms on October 27th, with Dr. BLURTON, president, in the chair. Dr. H. C. CAMERON, physician in charge of Children's Department, Guy's Hospital, delivered the inaugural address of the session, the subject being "Children in general practice." At the close of the meeting the lecturer was cordially thanked for the interesting manner in which he dealt with some of the problems which arise in dealing with the more common disorders of children.

THE inaugural meeting of the South-Western Ophthalmological Society took place on October 22nd, at the Bristol Eye Hospital. Numerous cases were shown in the morning, and the members lunched together at the Grand Hotel. Mr. Richardson Cross was elected first president, Mr. Roper of Exeter and Mr. Coulter of Newport vice-presidents, and Dr. Stack secretary. Mr. CROSS explained the objects of the society. He advocated informal discussions on general ophthalmic topics which would interest not only oculists, but also physicians, surgeons, and general practitioners. Mr. ROPER, in the afternoon, opened a discussion on "The causes of iritis," laying special stress on the subject from a clinical as well as from a pathological point of view. He drew attention to the influence of damp as a predisposing cause, as exampled by a valley in his neighbourhood, from which he had noticed for a long time that patients, especially after operation, were more prone to inflammatory troubles than those in other parts of the county, and also to the good results which were obtained in very dry climates abroad. The discussion which followed was very general and very interesting. The society already numbers over fifty, and there were present at the meeting members from Bath, Exeter, Weymouth, Newport, and Cardiff.

D

Reviews.

BIOLOGICAL PRINCIPLES.

THE late Professor DONCASTER called his last book *An Introduction to the Study of Cytology*,[1] but it is much more than that. It contains, it is true, a full summary of modern knowledge about the structure of the cell, its divisions, maturation, and fertilization, but the author has grafted upon this summary discussion relating to most of the fundamental questions of biology. From his earliest chapter, which includes references to such things as the theory of karyoplasmic strain as a possible cause of cell division, he loses no opportunity of presenting his facts as illustrations of general principles, or foundations of theories; and for this we are grateful to him, for cytology is one of the more highly specialized biological sciences, and its technical difficulties are hardly less formidable than its technical vocabulary. Indeed, we doubt whether anyone without a great gift for writing clear English could contrive to produce a Cytology of interest to the general reader.

The most interesting part of the book, and the part in which the author was probably most interested himself, discusses the mechanism of inheritance, and particularly the theory of the individuality of the chromosomes. It will be remembered that in 1915 Professor Doncaster published a book entitled *Determination of Sex*, in which he marshalled the facts which lead many to believe that the difference between male and female is due to the presence of a supernumerary chromosome in one sex or the other; at the end of that book he turned upon this theory and rent it. It appears that before the publication of the book now under review he more definitely adopted the view that "x chromosomes" were the actual visible determinants of maleness, or femaleness; he went further than this, for he regarded the Mendelian segregation of characters and the phenomenon of sex-limited inheritance as a consequence of the maturation divisions of the germ cell. In fact, he came to believe that many of the appearances which the cytologist observes in the fixed and stained cell are but the visible expression of the fundamental laws of life.

We are surprised to see no reference to the results of "cell dissection." If certain recent American authors are to be credited, as we believe they may be, it is possible not only to push the nuclear membrane of a living cell in front of the point of a needle, but even to catch hold of individual rays of an aster, and draw particular chromosomes out of the egg. It is obviously of the very highest interest that such cell-organs as the nuclear membrane and the rays of the aster should admit of handling in the living cell; at any rate, it is proof that these structures are not due to the action of the cytologist's fixatives.

Most of the plates are borrowed from original papers, and represent actual structures as they are seen in this or that organism. Such illustrations are of more value than diagrams, which attempt to present to the eye a summary or collation of the structures which would be seen if a number of types could be examined simultaneously.

EARLY SURGERY IN GREAT BRITAIN.

The Early History of Surgery in Great Britain: its Organization and Development, forms the fourth volume of the Medical History Manuals, and has been written by Dr. GEORGE PARKER,[2] Physician to the Bristol General Hospital and author of various historical articles—for example, the Barber-Surgeons and Medical Organization and the Growth of Medical Sciences in the Seventeenth Century. The period covered in this scholarly and well written volume now before us is from A.D. 1000 to 1850, and its chapters deal with the successive centuries. The author is in full sympathy with the ancient writers, and points out that their methods and aims were not so absurd as passages frequently quoted from them, and often selected for their ridiculous character, might suggest; many of their methods, after a period of disuse, have come into

[1] *An Introduction to the Study of Cytology.* By L. Doncaster, F.R.S. Cambridge: The University Press. 1920. (Demy 8vo, pp. xiv + 280; 30 figures, 24 plates. 21s. net.)

[2] *The Early History of Surgery in Great Britain.* By G. Parker, M.A., M.D. London: A. and C. Black. 1920. (Cr. 8vo, pp. 204, 8 illustrations. 7s. 6d. net.)

modern vogue; and very possibly our technical language and hypotheses will appear no less quaint to future generations. Thus, Henri de Mondeville of Paris (1260–1320) bid fair to anticipate Lister by 700 years, but his successors fell away in the search for applications to heal a foul wound directly—that is, for antiseptics—which contemporary science was unable to provide. The text is not rigidly restricted to events in this country, for the changes in European surgery necessarily influenced the progress of that art and science in Britain. The development of surgery in this country falls into four main periods—the first following the growth of universities and hospitals in Europe during the twelfth century; the second due to the great Renaissance and the elaborate educational system of the barber-surgeons in the sixteenth century; the third which sprang from the revival of hospitals and the commencement of hospital schools, and clinical teaching in the eighteenth century; and, lastly, the present period, rendered possible by anaesthetics and the discoveries of Pasteur and Lister, which, however, is outside the scope of this book. In tracing the origin of medical and surgical societies, which in the nineteenth century played such a prominent part in advancing post-graduate study, the incorporation of the Royal Society at Oxford in 1662 is mentioned with the remark that "of this opportunity physiologists and chemists quickly availed themselves, and even surgeons from time to time brought forward the results of their observations." The influence exerted severally by the universities, the barber-surgeons, and the hospitals is carefully analysed, and the chief British surgeons receive separate biographical notices. Within a comparatively small compass Dr. Parker has concentrated a large amount of most interesting material set out in an attractive manner.

PHYSICAL RECONSTRUCTION AND ORTHOPAEDICS.

THE book of DR. HARRY EATON STEWART, late a member of the Division of Orthopaedics, U.S. Army, on *Physical Reconstruction and Orthopaedics*,[3] is intended to be a condensed manual which should "be of value to the physician, reconstruction aide, physical director, and orthopaedic assistant." It contains useful information which should be of value to those who are not able to study thoroughly the various subjects dealt with. We are heartily in agreement with the writer in his insistence on the importance of turning the lessons of the war to good use in the future. That they should not be forgotten is even more important in the United States than elsewhere, for while the United States Military Medical Service had to treat about 200,000 wounded, the annual total of industrial accidents in peace amounts to some 700,000. These should be treated as carefully and as thoroughly as we believe was the case with the war casualties.

The section on massage calls for little comment, but it would have been helpful if more precise indications had been given—for example, in the case of the heart. The chapter on vocational therapy contains a good deal that is both interesting and useful, but the first four chapters of the second part on orthopaedics are disappointing, particularly that on infantile paralysis, which, coming from the United States, where there has been such an unfortunate wealth of clinical material, might have been expected to be of special importance. The tables of exercises designed to develop paretic muscles are, however, of value. The section on flat-foot and other foot troubles is of interest, embodying the experience of army surgeons, who, as is known, devoted much attention to these troubles, to which the United States citizen seems to be peculiarly liable.

There is a glossary at the end of the book, which may be of use—when it has been corrected. We would offer as contributions to its revision the remarks that "valgus" does not mean "turned in," nor "varus" "turned out"; that "osteomy" does not mean "to leave opening into"; and that "to cut into" is hardly an accurate rendering of the suffix "otomy."

[3] *Physical Reconstruction and Orthopaedics.* By Harry Eaton Stewart, M.D., Captain Medical Corps, U.S. Army. New York: Paul B. Hoeber. 1920. (Demy 8vo, pp. 240+xv; 64 figures. 3.75 dols. net.)

CHEMISTRY OF THE BLOOD AND URINE.

IN their monograph *The Newer Methods of Blood and Urine Chemistry* GRADWOHL and BLAIVAS[4] insist that chemical analysis of the blood far surpasses in value the most intricate qualitative and quantitative urinary analysis, and that the two methods supplement each other, the blood analysis giving information about the retained products of metabolism. Urinary analysis may be said to estimate organic changes in the kidney, whereas a chemical examination of the blood supplies information about the minutiae of renal function from a pathological-chemical and a pathological-physiological point of view. Thus renal diabetes, in which there is simply glycosuria possibly due to unusual permeability of the kidneys for the normal blood sugar and never to hyperglycaemia, cannot be distinguished from diabetes without a comparative blood and urine analysis; again, in uraemic nephritis and thermic fever the creatinin content of the blood has a prognostic significance which a urinary examination cannot provide. The authors also bring forward a number of case records proving the value of chemical examination of the blood in distinguishing cardio-vascular cases with secondary renal disturbance from primary nephritis with secondary cardiac changes.

This volume contributed by laboratory workers summarizes the advances in urinary and blood chemistry. It is divided into three parts: (1) The technique of blood chemistry; (2) the chemical analysis of the urine; and (3) the blood findings and their interpretation. The last and much the largest section will attract the general reader, who will find a clear presentation of the most recent work, much of it by American investigators; there are separate chapters dealing with blood sugar, acidosis, blood changes in gout, and blood chemistry in nephritis. An account of basal metabolism, which is very much to the fore in America, especially in connexion with exophthalmic goitre, has been added for this reason, although it is rather outside the scope of this monograph, the description being taken from Dr. J. J. R. Macleod's *Physiology and Biochemistry in Modern Medicine.*

NOTES ON BOOKS.

DR. GILBERT E. BROOKE has published a volume entitled *Medico-Tropical Practice*,[5] which is a second edition, with a new title, of a book he published in 1908. Many alterations have been made; some of the old chapters have been omitted, new chapters have been inserted, and the matter has been rearranged. Tropical surgery and hygiene, as well as tropical medicine proper, are dealt with, and the practical aspect of matters is emphasized. The work as a whole is good and the book can be recommended to students, for the immense mass of information it contains is, for the most part, accurate. It is almost inevitable that it should not be quite up to date; we find, for example, no account of Noguchi's leptospira in yellow fever, nor of Dobell's work on the amoebae, nor of intravenous injections of antimony in bilharzia disease; these omissions, however, are necessary for the student during his instruction for the diploma in tropical medicine and hygiene. Valuable as the book is, the next edition will be still more valuable if subjected to a thorough revision in the light of modern discoveries. A great point in its favour is that it is not too long and discursive, a common fault in the larger manuals on tropical medicine.

SIR FRANCIS DARWIN has published this year another book of graceful essays, whose title, *Springtime*,[6] is taken from the heading of the first paper. It is a collection of studies in literature and natural history, and forms a companion volume to *Rustic Sounds*, by the same author, which we had the pleasure of noticing two or three years ago. These twelve essays deal with "a number of things": old musical instruments, the nomenclature of fiction and of English plants, Sir Norman Moore's history of St. Bartholomew's Hospital, the author's childhood at Down, the

[4] *The Newer Methods of Blood and Urine Chemistry.* By R. B. H. Gradwohl, M.D., and A. J. Blaivas. Second edition, revised and enlarged. London: Henry Kimpton. 1920. (Roy. 8vo, pp. 418; 75 figures, 4 plates. 30s. net.)

[5] *Medico-Tropical Practice: A Handbook for Medical Practitioners and Students.* By G. E. Brooke. Second edition, revised throughout and rewritten. London: C. Griffin and Co., Ltd. 1920. (Fcap. 8vo, pp. 532; 58 figures, 2 plates. 18s.)

[6] *Springtime and other Essays.* By Sir Francis Darwin. London: John Murray. 1920. (Cr. 8vo, pp. 242; illustrated. 7s. 6d. net.)