

surgical craft, which continued for a long period outside the University walls, until in 1726 the University itself established a chair of anatomy, which was first occupied by the race of the Monros, father, son, and grandson. The history of the connection of the Bell family, Benjamin, John, and Sir Charles, is well described, and their creation of a great following, numbering among the flock the representative names of Sir William Fergusson, Robert Liston, and James Syme, a galaxy of practical surgeons of which any medical school might be proud. Lister migrated in early life from University College, London, to become a pupil of Syme, with whom he became intimately associated before returning to London.

It is clearly to be made out in Mr. Miles's book that the path to surgical fame and fortune in Edinburgh was by way of the dissecting-room, and in the pre-anæsthetic times, when rapidity of operation was the order of the day, a very exact knowledge of anatomy was essential. The introduction of anæsthetics altered this, however, although for many years to come surgeons all over the country learned their art as dissectors, and the eminence of our surgeons as practical craftsmen may be referred to this early training in manipulative skill. At the same time, however, English surgery as a science was in a backward state, and there is considerable ground for the belief that part of Lister's great work was due to his training as a pathologist rather than as an anatomist. He became familiar with pathological doctrines and the bacteriology which was then rapidly coming to the front, and most successfully applied the knowledge to the problems of disease which confronted him. In this way he laid the foundations for enormous advances, although he departed from the Edinburgh anatomical traditions.

In comparison with expert craftsmen like Liston, Fergusson, and Syme, Lister was not a brilliant and dashing operator, although his final results have possibly never been surpassed. Under his magic hand the terrors of sepsis disappeared and a new era in medicine was revealed. The preparatory training which Lister went through was not imitated by others to any great extent for a long time, and the great discoveries of bacteriology passed into the hands of pathologists. This must seem strange when it is remembered that the great majority of cases which a surgeon is called upon to treat are the direct or indirect results of infection. The technical developments of operative surgery have tended more and more to make the surgeon an operative craftsman rather than an original investigator. The relative failure of pure surgery apart from science in the present war is a confirmation of this.

As a study of the evolution of operative surgery in Edinburgh Mr. Miles's book is a welcome addition to our knowledge, however. There still is a necessity for a work on the evolution of ideas on surgical diseases as opposed to manipulative skill in their treatment.

NO. 2532, VOL. 101]

#### OUR BOOKSHELF.

*Frontiers: a Study in Political Geography.* By C. B. Fawcett. Pp. 107. (Oxford: At the Clarendon Press, 1918.) Price 3s. net.

It would not be easy to say much that is new in a general discussion on frontiers after the works of Sir Thomas Holdich and Prof. L. W. Lyde, one arguing that frontiers should secure protection to the State, the other that they should be chosen rather to facilitate intercourse in the hope of securing peace between adjacent States. Mr. Fawcett has, however, written a very readable essay treating the subject from the viewpoint of geographical evolution. He begins by discussing the value that various features have as frontier zones, and leads on to a consideration of the complexities of the frontiers of modern States. He notes that the strongest force at present working towards the modification of frontiers is a tendency towards the coalescence of national and political boundaries. This implies a subordinate place to economic and strategic considerations, though in the main such frontiers will conform with the latter. The real difficulties arise in the determination of nationality in frontier lands which are well peopled. We are glad to notice that Mr. Fawcett defines his use of the terms "frontier" and "boundary," employing the former for an area and the latter for a line. Loose usage of these terms is not conducive to clear thinking. His suggestion to speak of zones of separation and zones of intercourse (or of pressure), instead of natural and artificial frontiers, has much in its favour. Among his wealth of instances we find no mention of the neutral zone established in the south between Norway and Sweden in 1905. Here is an instance of a frontier of intercourse (short compared with the long zone of separation) which both nations agree to prevent so far as possible developing into a menace to one another, by prohibiting the erection of military works or the establishment of garrisons. R. N. R. B.

*Story-lives of Men of Science.* By F. J. Rowbotham. With portraits and other illustrations. Pp. 266. (London: Wells Gardner, Darton, and Co., Ltd., n.d.) Price 3s. 6d.

THESE attractively written biographies of some seventeen workers in science will interest young readers, and probably indirectly foster a love of natural knowledge among them. Among the heroes of science chosen by the biographer may be mentioned Galileo, Newton, Davy, Faraday, Darwin, Pasteur, Kelvin, Lister, and Crookes. The chapters are full of incident, and deal with the domestic lives as well as with the researches of the great men chosen for inclusion in the volume. Mr. Rowbotham shows a wide acquaintance with the literature of his subject, and possesses a happy style. It is unfortunate that throughout the chapter on Lord Kelvin "Thompson" is printed instead of "Thomson," and that Francis Bacon appears in the table of contents as Lord Bacon, instead of Lord Verulam.