of heart and genuine sympathy which he showed towards his patients' (*Munk's Roll*, Vol. IV). These qualities were appreciated by the poorest as well as by the highest in the land. He was an excellent teacher of clinical medicine; and students at four hospitals—Charing Cross, the London, University College and Great Ormond Street Hospitals—valued and owed much to his instruction. Early in his career he contributed to medical knowledge in papers on the differentiation of basic from tuberculous meningitis and the serious significance of rheumatic nodules. His most important work was on infantile scurvy and its relation to rickets. The first paper in which he showed that 'Scurvy Rickets' was a definite disease and due to antiscorbutic deficiency in the diet appeared in 1883; and he made his further researches on the malady the subject of his Bradshaw Lecture to the Royal College of Physicians in 1894.

Sir Thomas had a good knowledge of botany, geology and archaeology, while the Harveian Oration which he gave in 1916, and the Murtle Lecture on 'Fra Paolo Sarpi and His Time', show that he was also a man of letters and versed in medical history. He was President of the Royal College of Physicians from 1910 to 1915. Here he found scope for his administrative talents and maintained the dignity and prestige of the College. Always interested in the prevention of disease, he served on several Royal Commissions relating to public health. He helped many good causes and notably the Royal Medical Benevolent Fund. He was a total abstainer, and a non-smoker and died in his hundredth year.

This interesting volume is a filial tribute by Miss Helen Barlow to her father's memory. It includes a foreword by her; a biographical sketch of Sir Thomas Barlow by his grandson, Andrew Barlow; Sir Thomas's Harveian Oration on 'Harvey, the Man and the Physician', the Murtle Lecture, the Bradshaw Lecture and a bibliography of his writings. This account of a great and good man will be welcomed by all readers and especially by those who knew him.

ARTHUR S. MACNALTY

The History of Cell Respiration and Cytochrome, by DAVID KEILIN, Cambridge University Press, 1966, pp. xix, 416, plates, 90*s*.

The development of ideas which led to the current views on the mechanism of cell respiration spans little more than the working life of one man. In this important book Professor Keilin, who contributed so much of the experimental evidence and original thinking which shaped biochemical thought on this subject, reviews the whole field in two epochs: the first covering the time from antiquity to 1925 and the second, which begins with the rediscovery of MacMunn's haematins and ends with the elucidation of the structure of cytochrome c, covers the period during which he was himself active in this field of research.

In the first section the theories of respiration, beginning with that of Galen, are reviewed. Particularly impressive in this part is the careful précis and documentation of evidence for each new theory. The few illustrations showing the title-pages of historical papers are especially pleasing. The account of MacMunn's discovery of myohaematin and histohaematin and the response that these discoveries received from his contemporaries receives a sympathetic treatment and the summary of reasons for the neglect of this work is a fairly and finely balanced judgment.

Preceding Keilin's account of his own work and the further development of research on the cytochromes there is a short discussion of the state of knowledge of the respiratory activity of organisms and of intermediary metabolism. Although it is only a minor criticism of this book, it appears to the reviewer that this section is rather summarily dealt with, especially as it is so competently and concisely written.

The final two hundred or so pages could have been autobiographical. Instead, Keilin has presented a fascinating account of the rediscovery, occurrence, properties and biological significance of the cytochromes. The whole of this part is beautifully written, fully documented and gives, from a historical point of view, the most comprehensive account of these compounds that is available today.

This is an exceptionally pleasant and readable book which will be of interest to medical historians and biochemists alike.

A. L. GREENBAUM

Starling on the heart. Facsimile reprints including the Linacre Lecture on the Law of the Heart, analysis and comment by C. B. CHAPMAN and J. H. MITCHELL, London, Dawsons, 1965, pp. 191, illus., 55*s*.

It was William Harvey who uttered the thought which has pursued cardio-vascular physiologists to the present day, 'I found the task so truly arduous, so full of difficulties, that I was almost tempted to think, with Fracastorius, that the motion of the heart was only to be comprehended by God. For I could neither rightly perceive at first when the systole and when the diastole took place . . .'

So it must have seemed to his successors although occasional determined attacks were made at the problem over the centuries notably perhaps by Stephen Hales, D.D., F.R.S., Minister of Teddington, Middlesex, who in 1740 described his immortal experiments, 'In December I laid a common field gate on the ground, with some straw upon it, on which a white mare was cast . . . and then laying bare the left carotid artery I fixed towards the heart the brass pipe . . .' When the mare was dead Hales proceeded to measure the diastolic volume of the left ventricle by a bees-wax cast 'in order to make an estimate, with what force the heart of this mare must propel the blood'. This may be the first anticipation of Starling's attempts, as enunciated in the collected papers in this volume to unravel the determinants of cardiac action,

The problem that intrigued his co-workers, and previous investigators A. Fick. J. von Kries, O. Frank, and M. Blix, was 'the extraordinary ability of the heart to adjust its performance almost instantaneously to meet the rapidly changing requirements of the peripheral tissues' (Braunwald 1965). It was this problem which Starling largely solved in a series of brilliantly contrived experiments which led him to define the 'Law of the Heart.'

These experiments were published in a series of six papers from 1912 to 1920 and facsimile reprints of these papers, at least two of which are rarely found in medical libraries, form the basis of this volume. Valuable as it is to have these reprints, this volume acquires an extra usefulness by the fact that an authoritative evaluation of each paper is printed along with it. In addition there is a good historical survey of previous work and workers on the subject and also a very useful concluding chapter