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and many messages of encouragement were received from those in Australia, South Africa, Ireland and elsewhere who were unable to be present.

An address by Dr. F. N. L. Poynter was followed by a business meeting which unanimously accepted his generous invitation for the Society to become an integral part of the Faculty of the History of Medicine and Pharmacy in the Society of Apothecaries.

Officers were elected as follows:

*Chairman:* Professor D. L. Hughes, Department of Veterinary Pathology, Liverpool. *Research Officer and Deputy Chairman:* Mr. J. W. Barber-Lomax, The Wellcome Building, London, N.W.1. *Secretary:* Mr. S. A. Hall, Veterinary Investigation Centre, Woodthorne, Wolverhampton. *Committee Members:* Mr. W. G. R. Oates, Royal College of Veterinary Surgeons, Belgrave Square, London, S.W.1, and Professor L. P. Pugh, School of Veterinary Medicine, Cambridge.

There are forty-two Founder Members. Meetings will be held at least twice a year and the first of these will be in London in the spring.

S. A. HALL

## THE LINDSAY CLUB

AFTER an exploratory meeting held in March of this year, it was felt that there would be sufficient interest among members of the dental profession to warrant the formation of a club for the study of dental history. It was decided that the society should be called the Lindsay Club in memory of Lilian Lindsay and her work in the field of dental history. An Inaugural Meeting was held on Thursday, 18 October 1962 at 13 Hill Street, London, W.1. After the business meeting, Sir Zachary Cope gave a paper entitled 'The Tomes Tradition'.

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*Galen: On Anatomical Procedures: the Later Books*, translated by W. L. H. DUCKWORTH, London, Cambridge University Press, 1962, pp. 279, 40s.

FOR far too long blasts of denigration have spattered Galen's reputation. First gusts of the storm began with Vesalius' just exposures of Galen's shortcomings as an anatomical seer; and with the revival of interest in Galen's works at the Renaissance it was inevitable that his errors should form the stepping-stones for further progress in anatomy and physiology. But that this denigration should continue into the twentieth century with its allegedly more mature attitude to scientific achievement is inexcusable. In English-speaking countries at least, it is largely due to ignorance of Galen's works, an ignorance born of an ever-decreasing ability to read Greek and Latin, and a strange reluctance of those with sufficient linguistic equipment to translate these vitally important works. It was in full realization of this dilemma that Charles Singer in 1956 produced his translation of the first eight books of Galen's *Anatomical Procedures*. This was the fragment of the work which reached the West in the original Greek, and was first published in the Aldine edition of Galen's works in 1525. It was used by Vesalius as a foundation for his own studies. The remaining part of Galen's work, did not however reach the West until the middle of the nineteenth century. It was salvaged for posterity by the Arabs, in particular by that great lover and

translator of ancient Greek science, Hunain ibn Ishaq who in the ninth century A.D. used three Greek manuscripts in compiling an accurate Arabic translation in conjunction with his nephew Hubaish. This, through the medium of a German translation made by Dr. Max Simon of Leipzig in 1906, was the basis from which W. L. H. Duckworth produced the present English translation of the last seven books of the work.

Thus at last we are presented with one more living fragment of Galen's achievement from which we can glimpse the stature of his mind. I say 'living' since here Galen addresses the reader in the first person throughout; often he breaks off to give some personal anecdote or opinion which brings a personal flash of colour to the impersonal pursuit of his anatomical task; and as one reads one gets the feeling of coming to know the man. This impression is reinforced by the smooth easy flow of the translation which successfully conceals from the reader its many difficulties. For this we have to thank not only the original care in revision performed by Duckworth himself but the skilful work of Dr. M. C. Lyons in suiting the Arabic to English phraseology, and Mr. Bernard Towers's interpretations of Galen's descriptions in terms of modern anatomy. One of the main difficulties in the modern readers' appreciation of ancient medical writers like Galen is the inevitable lack of technical terms, whereby ambiguity robs observations of clarity and value. Thus Mr. Towers contributes a specialist element necessary to the translation of any medical historical work; many muscles, nerves and arteries would be unidentifiable to the reader without his help. In one case, perhaps, careful maintenance of literal translation has been excessive. Those bodies which the anatomists 'designate in the Greek language "adenes" that is "spongy flesh"', might well have been referred to as 'glands' without more ado rather than 'spongy flesh' on each occasion. After all the organ and the term 'gland' was recognized in the Hippocratic writings.

To advocate rehabilitation of Galen is not to ask for any dramatic pendular swing of opinion; it is only to urge reappraisal of his efforts through his works as they are made available to us in translations such as this. Galen's failures loom large in our consciousness; in this fragment of his work are to be found some of his successes. They are worthy of sampling.

Galen makes it clear that he was but the last of a long line of anatomists in a tradition which dates right back to Erasistratus and Herophilus; thus many of the fine observations to be found in Galen's work may be derived from his predecessors. He refers to 'skilled anatomists' as knowing all about the paired nature of the nerves arising from the spinal cord. And in describing his discovery of the recurrent laryngeal nerve he refers to it as 'the nerve which the anatomists have neglected to record', a phrase that implies extensive knowledge of the other nerves by his contemporaries and predecessors.

I find Galen's observation remarkable that 'On both sides of the band (the frenulum of the tongue) you find the orifices of the ducts called salivary.' And he goes on to describe the insertion of a probe of wood or bronze along the duct, and the incision of the gland tissue through its sheath with observation of the roots, 'of those vessels which discharge the saliva. Their original source is that gland, and they are in fact like numerous fine rootlets which unite with one another', to form a single duct on each side of the tongue. How original this observation may be I do not know; but I do know that these salivary ducts are named after Wharton and Bartholin.

Again we habitually link the lacteals with the name of Aselli. Here we find Galen saying: 'Further you will see in the mesentery besides those veins which we have

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mentioned, others (lacteals) each of which ends at a portion of spongy flesh (mesenteric lymph gland) specially associated with itself.'

Knowing that Galen remains our richest source of information about the activities of such great predecessors as Erasistratus one looks for reference to this great anatomist here; and one finds a pearl. Describing the descending aorta Galen notes:

I say then look immediately at that small twig which is single, unpaired, and lies beneath the lung at the place where it (the aorta) joins the vertebral column. This is the twig of which some of the followers of Erasistratus believe that offshoots from it distribute themselves in the lungs. But in the dissection of the lung we find no other fourth class of vessel except those which all anatomists have recorded, I mean the class of 'rough arteries' (bronchi) that is to say the subdivisions of the trachea, the class of 'smooth arteries' that is to say the subdivisions of the 'venous artery' (pulmonary vein) which goes from the heart to the lung, and the class of the 'veins' (branches of the pulmonary artery).

Here Galen not only reveals Erasistratus as the discoverer of the left bronchial artery, but he does it in such a way as to leave us in no doubt that he himself did not believe it.

Galen wrote this great work 'On Anatomical Procedures' because, as he put it, 'Already I see some who have been taught by me grudging to share their knowledge with others. Should they die suddenly after me these studies will die with them.' His forebodings were almost justified. Mutilated and for many centuries ignored, the fragments of this work have lain in obscure places in Europe and Asia. Now through the skill and effort of men like Hunain ibn Ishaq, Andreas Cratander, Charles Singer, and Wynfrid Duckworth, these fragments have been pieced together into a wonderfully vivid and English whole. We are surely fortunate in our heritage.

K. D. KEELE

*A History of Medicine, vol. II: Early Greek, Hindu, and Persian Medicine*, by HENRY F. SIGERIST, London, Oxford University Press, 1961, pp. 333, 75s.

We must be grateful to Ludwig Edelstein, to the late John Fulton, and to the Henry Sigerist Research Fund Committee for the editing of this second volume of the monumental *History of Medicine* planned by Henry Sigerist. Although written in the throes of a severe illness and not revised or completed by the author, it maintains the erudition, the spirit and philosophical outlook of the man, justly considered as our greatest contemporary medical historian. The great legacy of Sigerist is a new conception of the history of medicine. For many years the writing of the history of medicine as a 'chronicle' artificially isolated from the general frame of history did not satisfy many and although more than fifty years ago that pioneer in medical historiography, Julius Pagel proclaimed that medicine being an aspect of human culture and civilization, its history should be considered parallel to the other aspects of human culture—religion, philosophy, social background, general history and geographical environment—Sigerist is the first who applied this principle. He has given us in the first volume of this work and in the present volume a history that is real living history, in the sense of the ancient Greek historians, and not a mere chronicle divorced from the comprehensive Heraclitean 'becoming' of human development, restricted to a special corner of the earth. History can only be studied in the frame of universal history.

In his first volume Sigerist studied (I do not use the inadequate term 'described') the cultural and medical development of the Egyptians and the Semitic people.