

Book Reviews

Leonardo da Vinci: Il Trattato della Anatomia, 3 vols., Rome, Istituto di Storia della

Medicina dell'Università di Roma, 1965, pp. 391, 383, 142, illus., no price stated. Outstanding as were Leonardo da Vinci's achievements in anatomy it is well known that he never completed his studies in the subject. Although he tells us that he filled 120 books of anatomy none of these was published. The contents of these books are scattered throughout the various manuscripts many of which are at Windsor Castle. This present large work in three volumes, undertaken under the direction of Adalberto Pazzini, has as its objective the collection of the many fragments of Leonardo's anatomical work and their presentation in an integrated picture. It is emphasized that the words throughout are the words of Leonardo da Vinci himself. This it is claimed is the work on the subject that Leonardo wished to write but never did. The treatise of anatomy has been divided up in a modern manner, that is to say into the various systems of the body. It is therefore in a way a presentation of Leonardo in modern dress, and one has to ask oneself how far the daring claim made in the introduction of this work is achieved. Does it in fact present Leonardo's mode of thought and approach? Is this his anatomy as he would have presented it himself?

Let it be said at once that this work represents a great achievement of labour and care. From the point of view of students of Leonardo it is a study that had to be done. The fragmentation of Leonardo's notes has hitherto presented insuperable difficulties in obtaining a true picture of his thought and mind. Here a diligent search of many manuscripts has been made for material relevant to anatomy, and the harvest sorted and collected. Unfortunately, as always happens in this quest into Leonardo's vastly extended writings, the search has been selective rather than exhaustive. MSS. H and M for example seem to have escaped scrutiny.

Each anatomical section has been prefaced by a brief introduction; this is followed by a section on the anatomy of the system concerned, and one on its physiology. The muscular system occupies a large part of the first volume. It gives the opportunity for showing Leonardo at his best both in illustration and scientific investigation. The section on the cardio-vascular system follows the same pattern. The historical survey in the introduction gives a balanced account of Leonardo's efforts to produce a mechanical theory of the movement of the heart and blood and his failure to achieve discovery of the circulation as Harvey saw it. In the second volume of the work a large proportion is devoted to neurology and the anatomy of the special senses. This part of Leonardo's work is usually relatively briefly dealt with. Although these received relatively little anatomical attention from Leonardo he devoted much study to their physiology and mode of action, particularly to vision. A section of the book is here devoted to his studies of acoustics. This is very welcome since without it it is impossible to understand his concept of hearing, but to be logical there should of course be a section on optics, before that of the eye. It is in these sections in particular that the search of Leonardo's documents, other than those devoted ostensibly to anatomy and physiology, is particularly fruitful. It is good to see at the end of the book a section on pathology since this is so often omitted, and Leonardo was as interested

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in his observations of pathology as in any other aspect of the anatomy of human or animal organs.

It is natural that those producing this book should be enthusiastic about the great achievements of Leonardo da Vinci. This has been expressed by presenting him in the guise of a modern anatomist and physiologist. Inclusion of a section on endocrinology however overstates the point. Of endocrinology Leonardo can of course have had no inkling, and it serves no useful purpose to Leonardo's thought or to history to serve up his observations or his Galenic humoral interpretations of phenomena, as endocrinological.

Like William Harvey, Leonardo was in many ways both ancient and modern in his outlook. As an observer and experimenter he was modern, but he followed the ancients in being a daring generalizer. Both his anatomy and his physiology were based on a whole-hearted application of the mechanistic principle to human and animal organs which he persistently called 'instruments'.

Students of Leonardo, particularly those with a medical background who are interested in his anatomical and physiological labours will be grateful for this work. It collates and arranges large portions of the jig-saw of his biological studies, and so renders them a great deal more accessible. But has it achieved the presentation of his anatomical and physiological ideas as he himself would have presented them? The answer must still be in the negative. This stage in Leonardine interpretation has yet to be reached. Leonardo did not subdivide and limit his studies of anatomy into systems as did Vesalius who was in this aspect so much the more 'modern' of the two. Leonardo, on the contrary was pursuing his mechanical principles deep into the field of animal physiology. Of this we can still have only a fragmentary appreciation when we limit our approach to his anatomical studies. The synthesis of his mechanics and his physiology and anatomy remains to be achieved in the future. For such an achievement this presentation of his studies of anatomy provides an important step.

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The Health of Seamen, Selections from the Works of Dr. James Lind, Sir Gilbert Blane and Dr. Thomas Trotter, edited by CHRISTOPHER LLOYD, London, Publications of the Navy Records Society, Volume CVII, 1965, pp. x, 320, 50s.

The works from which these extracts have been taken are Lind's *A Treatise of the Scurvy* (1753) and *An Essay on the Most Effectual Means of Preserving the Health of Seamen in the Royal Navy* (1779); Blane's *Observations on the Diseases of Seamen* (1789) and *Select Dissertations* (1822); and Trotter's *Medicina Nautica* (1804). The volume is designed to draw attention to some of the rare and inaccessible works of the three pioneers of naval medicine, while the extracts, in the words of the preface, were chosen 'primarily for the benefit of the student of naval history; but it is also hoped that [they] will prove of interest to those concerned with medical history, because the Navy was the earliest organization to attempt what we should call a public health service.'

This volume is indeed of interest to medical historians. By having these important writings side by side one is presented with a richly detailed picture of eighteenth