

New Developments in Electromyography and Clinical Neurophysiology. Edited by John E. DESMEDT, M.D., Professor of Neurophysiology and of Pathophysiology of the Nervous System, University of Brussels. Volume 1—New Concepts of the Motor Unit, Neuromuscular Disorders, Electromyographic Kinesiology; Volume 2—Pathological Conduction in Nerve Fibers, Electromyography of Sphincter Muscles, Automatic Analysis of Electromyogram with Computers; Volume 3—Human Reflexes, Pathophysiology of Motor Systems, Methodology of Human Reflexes. 25 × 18 cm. Pp. xxvii + 2094, with 869 figures, 4 colour plates and 82 tables. Index. 1973. Basel—München—Paris—London—New York—Sydney: S. Karger. Price S. Fr. 600; U.S. \$186; DM 560; £76.20 (complete set).

Electromyography was born about forty-five years ago; it is now a gigantic industry.

In September 1971 the Fourth International Congress on Electromyography met in Brussels under the presidency of Professor Desmedt, editor of and contributor to this three-volume work. It was thought, an opinion which many would share, that the usual type of report of the proceedings of an international congress had ceased to have much value. So it was decided to invite experts to write 170 chapters on electromyography and kindred topics such as nerve conduction, the aim being to provide an authoritative corpus of information and—important in a subject in which developments are so brisk—to publish it with all possible speed.

The result is a work running to over two thousand pages; for comparison the New English Bible, library edition (minus the Apocrypha), has about eighteen hundred. Electromyography has grown up in a period uniquely favourable to its development, one marked by dramatic advances in electronics and, in a more modest way, in subjects such as histochemistry. Electromyography has been profitably employed in almost every conceivable field of laboratory and clinical research—and (the inquisitive reader can find it for himself) one that might well have been left alone. The arrangement of the papers—because they are indeed papers, not chapters—while perhaps convenient for the expert, is not easy for the general reader seeking light on a particular subject. For example, there are seven papers on myotonia. There are five on myasthenia gravis (with one on botulism thrown in) and three of them have one author, the editor, in common.

In places there is some sedate entertainment. One writer makes use of the anatomically convenient extensor digitorum brevis for seeking evidence of neurogenic atrophy. He is pulled up sharply by another who discovered denervation in this muscle in normal subjects, pointing out that pressure from footwear may be responsible, just as most of us have bits of sensory denervation of the skin over the point of the elbow. And Bryant's account of myotonic goats (page 420) makes compulsive reading.

The second volume is largely concerned with nerve conduction, technically a much more refined affair, and its application in a host of neuropathies.

The third volume contrasts sharply with the other two, and in it the second half of the title of the work is particularly apposite.

Since our student days we have all been familiar with those disorders of the nervous system in which the dominant feature is an alteration of muscle tone. We know that there are different kinds, and that in some, such as Parkinson's disease and athetosis, there is also involuntary movement. But have we asked *how? why?* This, in brief, is what this third volume is about, and for the uninitiated (and maybe for the initiated too) the subject is bewilderingly complex. It involves the most refined studies in the anatomy of the central nervous system and delicate techniques such as the stimulation of single motoneurons. Electromyography, by comparison, becomes a spanner: useful for certain jobs.

It would probably be difficult for a cognoscente to write an adequate review of this immense work. For someone with only a kindergarten knowledge of the subject it is impossible. Yet it is relevant for all clinicians concerned with the locomotor system (perhaps volume 3 is best left to the neurologists), which includes orthopaedic surgeons, particularly those with an interest in paralytic disorders. We do not exactly fight shy of electromyography, nerve conduction and all that, but we may fail to grasp their essentials. As diagnostic aids alone they can be invaluable. What happens too often is that the expert is invited to "do an EMG" without the surgeon having any clear idea of the question to which he is seeking an answer or whether electromyography is likely to provide it.

Do these volumes, even if we have time to read them, provide us with essential guidance? They do not; we must turn to more elementary books. But should Desmedt be in the libraries of orthopaedic departments and hospitals? Perhaps it should, though the cost will make the librarian blench; but it should certainly be available in the libraries of medical schools. There is a gold mine of information here but in places some hard digging is necessary. Consider, for example, the opening chapters where the going is comparatively easy. What precisely are motor units, how are they arranged, and how do they behave after denervation and after re-innervation? At some stage in his career, preferably early on, many a keen young registrar will want to find out; he can do so here from people of outstanding authority.—H. J. SEDDON.