I went to do a fellowship with David Marsden in July 1975, after finishing my neurology residency, because I was fascinated by the work that he was doing together with Pat Merton and Bert Morton on the long-latency stretch reflex. This was landmark work that laid the groundwork for reflex loops that involved the brain, much beyond the spinal reflexes of Sherrington. Sherrington’s work was primarily in the spinalized cat; therefore, he could not appreciate that some reflexes might involve higher centres. The long-latency stretch reflexes required not only an intact nervous system but also a voluntary background contraction. Pat Merton was a physiologist who had been studying how movement might be controlled by feedback mechanisms and the long-latency reflexes seemed appropriate for the task. Bert Morton was a clever engineer who built the equipment that was housed in a special laboratory at the National Hospital in Queen Square. The three Ms would get together, often on the weekend, to do their experiments, typically with Pat or David as the experimental subject. Pat was a meticulous experimenter. In one experiment that I conducted with him, he corrected his reaction time to auditory stimulation taking into account the speed of sound from the speaker on one side of the room to his ear.

It was likely that David, the neurologist of the group, recognized that hyperexcitability of the long loop might be responsible for certain forms of myoclonus. They spent considerable time studying the myoclonus of a single patient with post-hypoxic myoclonus. They collected huge amounts of data and David wanted to publish them, but Pat, being typically meticulous, did not allow it, as he wanted to make sure that the calibration of the data was correct; they could never finish the calibration, and the article was never published. There is a similar story behind Marsden’s Book of Movement Disorders begun by David with Ivan Donaldson in 1983. In this case, 29 years after beginning the book, it was finally completed, but only after David died, Ivan Donaldson went into the wine business, Kailash Bhatia took over and Susanne Schneider rescued the effort.

Marsden’s name is synonymous with movement disorders (Quinn et al., 2012). The field was developed by him and Stanley Fahn, and it was popularized by them at the Unusual Movement Disorder Dinner at the American Academy of Neurology that they ran from 1981 to 1998. David and Stan would show videos and the audience would show others, and all would engage in spirited discussions about the aetiology. Although the evening courses at the academy were supposed to end at 10 PM, these sessions often went beyond midnight. There had been a field of ‘basal ganglia disorders’—largely Parkinson’s and Huntington’s disease, but David and Stan recognized that the field was wider than that.

David had an infectious enthusiasm for clinical movement disorders and his research in physiology and pharmacology. Generations of his fellows recount long discussions of ideas in the local pub after the regular work day, lubricated with beer. Personally, I was there earlier, in what I refer to as the sherry period, where we would discuss the research over sherry—he took the big glass and gave me the small one.

Donaldson and Marsden planned to make a book with a comprehensive view of the field. Fahn was invited to join, but he did not like the idea of an encyclopaedic view of the subject, thinking that a book should be more selective for only the best articles. In 1991, Marsden and Fahn, together with Joseph Jankovic, began a yearly course in Movement Disorders in Aspen, Colorado. This course has been successful, particularly in teaching new fellows interested in the field. Marsden, Fahn and Jankovic planned to write a book from the syllabi of that course, and Marsden felt that there was no conflict because of the different concepts of the two planned books. With Marsden’s death in 1998, Peter Jenner and I took Marsden’s place in the course, and now I have taken his place alone. In 2007, the Aspen book, dedicated to Marsden, was finally published (Fahn et al., 2007), now in its second edition, published in...
2011 (Fahn and Jankovic, 2011). As I took over Marsden’s syllabi, even though I rewrote and updated them, I can recognize a bit of overlapping text and a few of the same illustrations.

In addition to the Unusual Movement Disorder Dinners and the Aspen Course, perhaps the most important factor developing the field was the Movement Disorder Society. Again, there was a duplicated origin. Although the duplication has been successfully resolved, it could have been avoided. Fahn had suggested a new society to Marsden, the Movement Disorder Society (MODIS), with the main purpose of developing a new journal to be called Movement Disorders. At the same time, Reiner Benecke and Bastian Conrad had suggested a new society to Marsden with the main purpose of meetings dealing with movement disorders, to be called the International Medical Society for Motor Disturbances (ISMD). Marsden agreed to both, and both were announced for the first time at the Hamburg Congress of the World Federation of Neurology in 1985. Fahn did not know about ISMD. I saw the announcement fliers of both when I registered and later saw both of them at the opening reception. I asked what was going on with two societies about movement disorders. Fahn said, ‘What two societies?’ Marsden said, ‘I was meaning to tell you about that, Stan’. After a few years, the two societies merged into a ‘new’ Movement Disorder Society, now abbreviated MDS. Marsden was the first president of MDS, Fahn having been president of MODIS, and Marsden and Fahn were the first co-editors of Movement Disorders, now the premiere journal in the field. A pioneering aspect of Movement Disorders was the inclusion of videos of patients, a feature now widely copied in many journals.

With the popularity of the field, there are now many books on movement disorders, and the ‘Marsden book’, and even the ‘Fahn–Marsden–Jankovic’ books, has appeared relatively late given Marsden’s pioneering role. What can be said about it? The first impression is that the book is overweight, 1497 pages, and rather difficult to lift. You cannot read this in bed, and actually it is best left on the table. It might have been a good idea to divide the book into several volumes or to simultaneously publish the book online, allowing access to those who buy the book, which is getting to be a popular option with publishers. The book is intended to be comprehensive, and it is, so that the detail is valuable for the expert seeking in-depth coverage, but might often be overwhelming to the novice. Detailed coverage includes history of each movement disorder and an emphasis on clinical features, although the pathophysiology and treatment are also discussed at length. There has been an explosion in genetics since Marsden died, but this area is also detailed. It is a nice reference book to have on the shelf to look up almost any feature of a movement disorder. The main deficit is a lack of videos. A picture is worth a thousand words, and that means that a 1-min video at 16 frames per second is worth almost a million words. Videos are the ‘language’ of movement disorders, and now not uncommon in movement disorder books. There are some illustrations with multiple frames from videos, and these are nice, but videos would have been better.

One of Marsden’s important achievements in movement disorders was to demonstrate that many types of dystonia are organic disorders. The history is well documented in the book about how the thinking over the years went back and forth between organic and psychogenic. Marsden put together a number of arguments showing that disorders such as writer’s cramp were organic. His article in Brain with Michael Sheehy concluded ‘that isolated writers’ cramp is a physical illness rather than a psychological disturbance, and that it is a focal dystonia’ (Sheehy and Marsden, 1982). In reading Marsden’s work, however, it is crucial to recognize that he pushed the pendulum a bit too far in not recognizing psychogenic disease when it was present. This is illustrated by his article in Brain with his then junior colleague Bhatia, where he identified a series of patients with complex regional pain syndrome and dystonia as the causalgia-dystonia syndrome (Bhatia et al., 1993). Bhatia, now senior author after Marsden’s death, then pushed the thinking back toward the middle (Schrag et al., 2004). Reading the surprisingly short section in the book about this topic, however, leaves the reader hanging. And, perhaps mirroring Marsden’s view of psychogenic movement disorders there is no chapter devoted to it.

The book begins with a nice chapter on the anatomy, focused on the basal ganglia. Some of the diagrams are particularly good, and, if I read the initials correctly, were drawn by Donaldson. A large table sorts out the different terminologies for the thalamic nuclei, a confusing subject. The information presented gives a strong foundation, but misses some important more recent information, such as the reciprocal connectivity of the basal ganglia and cerebellum, now thought to be important in understanding the pathophysiology of disorders, such as dystonia. Chapters 3 and 4 deal with a general clinical approach to the patient and the laboratory assessment, respectively. These chapters are relatively brief, to the point and well worth reading by someone new to the field.

Most movement disorders are covered in depth. Chapter 5 on Parkinson’s disease is 211 pages long, a book in and of itself. I looked over the myoclonus chapters, having a particular interest in that subject myself, beginning when I was a fellow. I arrived in Marsden’s department shortly after the demonstration by Lhermitte that 5-hydroxytryptophan could improve post-hypoxic myoclonus, and Marsden was actively recruiting patients from all over England for study. David Chadwick, then Ted Reynolds’ registrar, was co-opted to do the clinical assessment so I could do physiology. There are six chapters on myoclonus, reflecting Marsden’s preferred classification by body distribution. It is not clear what the difference is between specific syndromes and other specific causes, but that is what an index is for. The entity of propriospinal myoclonus, one of the disorders first described by Marsden, has recently been recognized as sometimes psychogenic, but in keeping with the Marsden view of psychogenicity, this is not mentioned.

Given the speed of advances in medicine, a book is out of date when published. If you want the latest word, there is only one book, PubMed. However, a book like this is valuable. The foundation of movement disorders is well described, both in clinical features, anatomy, pathology and pathophysiology. It was only with hard labour that this book was produced; it is not clear how much Marsden actually wrote of the final product, but it would not have been finished without his enthusiasm and influence that lives on in many of us. With all the detail, the
foundation to be found here is sturdy, and the book makes an excellent reference. It also serves as a landmark text, which will be a useful source of definitive information for future historians who want to know what the primitive practitioners of movement disorders were thinking in 2012.

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References


