Book reviews


From the list of contributors in the introduction to this publication it is clear that the seminar attracted many well-known workers in the field of nuclear medicine. However, probably as a result of the fact that only two of these contributors are working outside the United States, some of the international controversies surrounding the practice of nuclear medicine in the investigation of the central nervous system have been omitted, both from the papers and the reports from the discussion panels. This is especially true in the section dealing with cerebral blood flow measurement.

Part 1 of the proceedings consists of excellent papers reviewing the current thoughts on fundamental issues such as metabolic characteristics of brain tissue, the blood barrier concept, and cerebral spinal fluid dynamics. The report on the discussion at the end of this session brings to light some important practical problems associated with the techniques of isotope cisternography.

Part 2 deals with the radio-pharmaceuticals used in central nervous system investigation. The only really surprising fact in this section is the over-estimation some workers continue to make concerning the usefulness of diffusible isotopes in the investigation of the cerebral circulation, in the clinical situation, despite strong evidence to the contrary.

In considering instrumentation, the papers in Part 3 outline, in a qualitative way, how images are produced and the inherent limitations of the systems employed.

The papers in Part 4 describe methods of measuring cerebral blood flow which can now almost be considered as classical. Very little is discussed concerning the sources of error inevitably associated with attempting to measure regional cerebral blood flow. As has become the custom most discussions focus on the analysis of the results with very little mention of the quality of information accepted at the patient-instrumentation interface. If this information is of poor quality, no amount of sophistication in the data analysis techniques will yield a result which will be of any real worth.

Part 5 is concerned with various imaging techniques and ends with an extremely useful discussion on isotope cisternography and ventriculography.

The clinical applications of the techniques previously discussed are dealt with in Part 6, which includes an interesting paper on non-radiation hazards to the patient of neurological diagnostic techniques.

This publication attempts to present the current thinking, state of the art, and the controversies concerning the investigation of the central nervous system using radio-nuclides. In the main it succeeds admirably. However, a disturbing idea that the clinician alone should be concerned with the application and advancement of nuclear medicine pervades some of the papers. It is clear that the idea that the practice of nuclear medicine is better carried out by a multidisciplinary group has still not been accepted in the United States. Such a situation perhaps lends itself to the preoccupation with the analysis of data to the exclusion of concern over the limitations of the actual measurement. Nevertheless, this book contains so much useful information, which is an obvious result of a great deal of intellectual application to the use of radioisotopes in neurological science, that it must be considered a very worthwhile addition to the literature already written on the subject, and a book that every worker in the field will want to read.


Constantin von Monakow was born during the Crimean war in 1853 and died in 1930. As a child of 4 he lost his mother, whereupon his father left the children to seek relief from his grief in the main centres of European culture. Constantin's relationship with his father was never a happy one. The father emerges from the book as a cold, distant person (two of Constantin's siblings became schizophrenics) who vehemently opposed his son's entry into medicine, and from then on the rupture between son and father appears to have been nearly absolute. If a late reconciliation took place it is not mentioned in the book.

Monakow was at first unlucky in his attempts to establish himself in private practice, but in 1878 he became assistant at the asylum in St. Pirmensberg, and there he began his fruitful scientific career with the important discovery that the external geniculate body degenerates after removal of an occipital lobe. He continued to contribute much to the normal and pathological anatomy of the nervous system, trained many future outstanding research workers (Minkowski was one of them), was co-founder of the international 'Brain Commission', and the striae acusticae as well as the rubrospinal tract bear his name.

He was far off the mark in his belief that the choroid plexus and the ependyma play an important part in the prevention (or origin) of mental disease, but who among his contemporaries did not favour this or that part of the brain as the seat of normal functioning of man's psyche, and how many do so, even to this day?

Monakow's brilliant scientific career makes interesting reading, but the man behind all these achievements hardly emerges until the outbreak of the first world war and old age made him take some stock of the meaning of human existence.

Those interested in the cradle years of neurology will
find the book fascinating; the reviewer read it with great interest and benefit. Many letters enliven the text.

There are some misprints – for example, Hughlings Jackson died in 1911 and not in 1941.

J. SCHORSTEIN


From an anthropocentric point of view almost all experimental studies of the nervous system are comparative— they are carried out on non-human animals. The term ‘comparative neurology’ however, carries certain implications, so that many would in practice exclude from its purview investigations using mammals, and non-human primates in particular: few workers in these circumstances would describe themselves as comparative neurologists. They investigate ‘the nervous system’ in search of general principles applicable right across the board. But even to them, as to the self-declared comparative neurologist, the human nervous system occupies a unique position only with respect to its complexity and its recent evolution. It is not otherwise of especial interest in itself: the aim of experimental neurology is not primarily the understanding of the human brain. Thus, the introduction to this issue of the Annals of the New York Academy of Sciences, devoted entirely to papers on comparative vertebrate neurology, ends: ‘Certainly we seek to understand better the capabilities possessed by man and his brain, but as biologists, we also seek to transcend that effort to include an understanding of the nervous system in all of animal life.’ This statement can sound hollow only to a diehard pragmatist—although one might sympathize with the view that understanding phenomena presents no automatic guide to controlling them.

As this book witnesses, there has been a recent resurgence of interest in comparative investigations. Does this collection indicate that major changes are to be expected in the understanding of brain evolution? In one aspect at least, and a fundamental one at that, the answer is predictably, ‘No’. The unavoidable difficulty is the absence of fossil evidence: the scheme derived from a comparison of the nervous systems of living forms must be forced into some sort of congruence with that derived from palaeontological studies of skeletal evolution. In the present symposium this latter scheme is, with the best intentions, provided by professional palaeontologists. One suspects that most professional neurologists will be as baffled by its complex jargon as, no doubt, a palaeontologist would be by neurological jargon.

There are, however, other more promising features. These arise from the abandoning of the almost total reliance on cytoarchitecture and general morphology to establish homologies. The use of accurate information about interconnections is now a practical proposition. This has already produced a potentially major revision of our understanding of the vertebrate forebrain. The larger part of the telencephalic masses labelled ‘striatum’ in non-mammals is almost certainly better compared with the mammalian pallium than striatum. Such a revision serves to underline the difficulties faced by those who would discover ‘palaeo-’ and ‘archi-’ systems lying side by side with the ‘new’ in the fabric of the mammalian nervous system. Another trend of enormous potential interest is the study of differences between species of the same class, not merely in terms of the relative sizes of lobes and lumps, but from the point of view of connectivity.

The worst feature of this book is its lack of cohesion; any general formulations are buried in the mass of the particular and there is no index. The presentation, subdivided into groups of papers relating to particular classes, does nothing to overcome this fragmentation. Any attempt to read the volume as a whole will result in mental indigestion rather than intoxication. Nevertheless, it demands serious attention from all who are interested in the general issues relating to the study of the nervous system.

K. E. WEBSTER


In the 1930s, although the gonadal steroids and their metabolites were the subject of intensive and competitive research, the adrenal steroids were of little more than academic interest. Few clinicians had heard of these substances, and ‘the man in the street’ had no reason to be interested. In the 1940s, it was rumoured that enemy aircraft pilots were given adrenocortical steroids to enable them to fly at ease at great altitudes. This rumour proved to be false, but gave great impetus to the synthesis of these substances and, in September 1948, a young American woman, severely crippled with rheumatoid arthritis, was treated with cortisone with dramatic effect. Having been bedridden, she was able to go on a three-hour shopping tour. Thus began a boom for steroids in medicine, which has shown no signs of abating. Indeed, a further great boost was given to medical and lay interests in these substances with the development and widespread use of the contraceptive pill. This birth control pill was followed rapidly by the anti-sex pill containing androgens which seemed to hold promise of cure or alleviation of disorders ranging from cancer of the prostate to a spotty face. New uses for steroids appear almost daily. The androgens themselves may revolutionize treatment of problems of physical and mental health in old age, and of behaviour in youth. Medical and lay interest in steroids is now very great. The term steroid is almost a household word, yet how much is known about these substances outside specialist laboratories? In most British medical schools, students are given one or two lectures on steroids. An eminent surgeon, intrigued but baffled by the ring structures of steroids, dismissed them facetiously as ‘3-hydroxy chicken wire’. Others, who wish seriously to find out more about steroids, are at a loss to know where to look. There is an abundance of specialist journals and reviews dealing with steroids, but the coverage of steroid biochemistry and pharmacology in standard textbooks is too slight. The authors of this book have endeavoured to fill this gap with a volume which is reasonably priced and not too large. The book is aimed at ‘graduates in biochemistry, medicine or pharmacology either taking postgraduate courses or beginning research
VITA MEA

CONSTANTIN VON MONAKOW

J. Schorstein

*J Neurol Neurosurg Psychiatry* 1971 34: 649-650
doi: 10.1136/jnnp.34.5.649-a

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