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The Editor will welcome Short Reports or Preliminary Communications limited to about 1000 words and with no more than one figure and one table. Also welcome are Letters to the Editor.

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## Notice

### The Peripheral Nerve Study Group

The fourth meeting of the Peripheral Nerve Study Group was held at Wye College, Kent, on July 11 to 14, 1979. The Group, which was founded in 1974, meets at two yearly intervals to discuss research relevant to disease mechanisms in peripheral neuropathy. The meeting was attended by 130 investigators.

The initial session considered trophic interactions between the cellular elements of peripheral nerve and its target tissues. It emphasised the complex and vital interactions that exist between neurons, their supporting cells and their targets, and which are operative not only during development and regeneration, but also in the maintenance of the structural differentiation of peripheral nerve. In a session on morphometry, it was clear that the histological features of peripheral nerve are particularly suited to quantification, and that such studies are continuing to provide new information on development and regeneration and on the mechanisms of the different patterns of nerve fibre degeneration.

The immunopathology of peripheral nerve disorders has been an area of increasing interest in recent years so that two sessions were devoted to this topic. The subjects discussed included the immunological mechanisms involved in human and experimental autoimmune inflammatory polyneuropathies, the occurrence of humoral demyelinating activity in such disorders, the demonstration by immunocytochemical means of the distribution of basic protein and glycoprotein in nerve and the significance of immunoglobulin deposition in nerve in a variety of neuropathies. These are all areas of particular current interest.

Electrophysiological studies in experimental and human neuropathies have provided considerable insight into the mechanism of the clinical features of peripheral nerve disorders in man. A session on the pathophysiology of nerve ranged from biochemical observations on sodium channel gating components, through the conduction block related to demyelination produced by the intraneural injection of sera from animals with experimental allergic neuritis or lysophosphatidyl

choline, to potential clamp studies in diabetic neuropathy. A session on axoplasmic transport dealt with a number of conditions altering orthograde and retrograde transport, including acrylamide and IDPN intoxication, experimental diabetes and nerve compression. Discussion of these studies highlighted the current difficulty in interpreting the pathophysiological significance of changes in axoplasmic transport in such conditions.

Two sessions were devoted to toxic and metabolic neuropathies, another area of active research. Biochemical, electrophysiological, pathological and clinical aspects of the neurotoxic effects of organophosphates, ethambutol, acrylamide, *n*-hexane and methyl-*n*-butyl ketone were considered in the first. The effects of these toxins on the metabolic integrity of the nerve fibre and its energy-dependent transport systems were advanced as being essential aspects of the mechanism of distal ("dying-back") axonopathy which underlies these toxic neuropathies. The second session included observations on human and experimental diabetes and changes in cyclic GMP in experimental neuropathies.

Two sessions were also devoted to the experimental pathology of peripheral nerve disorders. Particular attention was devoted to the application of freeze-fracture techniques, although the considerable technical and sampling problems inherent in such studies were emphasised. An interesting pair of communications considered the normal structural features and the pathology of the transition zone between the peripheral and central nervous system in the spinal roots and cranial nerves. The recently introduced techniques for the recording of endoneurial pressure and their application to the study of the dynamics of experimentally-induced nerve oedema also figured, as did a study on the possible role of calcium ions in the breakdown of neurofilaments in the genesis of experimental neuropathies.

Genetic neuropathies in man and animals were the subject of the final session. Three new animal mutants were described that provide interesting models for human disease. The study of animal mutants has already illuminated pathogenetic mechanisms in neuropathies, in particular by xenograft experiments, and this field is

likely to continue to yield important conclusions.

The meeting indicated that the study of the pathogenesis of peripheral neuropathies remains an active area of research and demonstrated that effective collaboration between the neurobiologist and the clinical scientist is possible. The meeting was supported by Ciba-Geigy Ltd, the Muscular Dystrophy Associations of America and Canada, the Muscular Dystrophy Group of Great Britain, the National Fund for Research into Crippling Diseases and the Wellcome Trust. It was organised by PK Thomas (chairman), DN Landon and TA Sears.

## Book reviews

**Experimental Studies in Regeneration of Spinal Neurons** By Tat'yana N Nesmeyanova (pp 261; illustrated; £18.50) Chichester: John Wiley & Sons. 1977.

Dr Nesmeyanova's laboratory in Moscow has been investigating the effects of damage to the central nervous system and the possibility of repair or regeneration for more than 20 years. The stimulus for this, and for many laboratories elsewhere in the world, has come from the work of Dr William Windle of the USA. Dr Nesmeyanova summarises relevant literature and her own studies, and in this monograph she describes reflex changes after spinal cord transection, the importance of afferent stimulation, regeneration of intraspinal axons in mammals, and a possible means of restoration of motor function in patients with complete or partial loss of conduction. It is clear that in Russia and in the USA the possibility that treatment might result in some functional restitution has been seriously considered and pursued despite considerable (and usually uninformed) scepticism elsewhere. The book is recommended particularly to those sceptics. Although in parts the book is naive and many of the Russian findings have yet to be confirmed by other laboratories and centres, the techniques described are of great interest and may encourage further work on the problem of return of function in the damaged spinal cord in man. The bibliography of work as indicated in