

Editorial

The Editor does not hold himself responsible for the views expressed by contributors.

ANNUAL CONFERENCE

Notice is drawn to the fact that the Annual Conference will be held in Johannesburg on 21-22 May, 1949. Now is the opportunity for those who feel that the Society requires shaking up to offer suggestions as to how exactly this could best be accomplished. All you have to do is to bring your various ideas up for discussion at Branch meetings. Should the Branch approve, your suggestions may be incorporated in the official resolutions to be discussed by Conference.

A point to remember, however, is that if you are really keen about ventilating grievances or offering suggestions, you ought also to have sufficient courage of your convictions to assist with their implementation. Like you, the present Editor was, and for that matter still is, a disgruntled type. Conforming to the rules of the game, your Central Executive Committee at once took advantage of this fact to instal him in a position where he could continue his grumbling activities. The difference is that he now grumbles on behalf of, and not about the Society.

DIRECTORY OF MEMBERS

The 1949 edition has recently been published and is in the course of being distributed to Branch

secretaries. It will be observed that various new branches have been included.

For the convenience of members separate alphabetical lists of male and female physiotherapists have been included. It was hoped to indicate which members were in private practice but this information was not available. This innovation will be introduced next year.

THE AMERICAN PHYSICAL THERAPY REVIEW

Through the kindness of the Executive Secretary of the American Physical Therapy Association, we have received the first of what we hope will be a regular supply of this Review. It is a well printed and compact publication which deals comprehensively with the activities of our fellow members in the United States.

Until permission is obtained to reprint from the Review, readers will be unable to read about all that is being done in that country. Physical therapists there, however, appear to be bringing themselves, and their profession, more to the notice of the medical profession than has hitherto been the case.

A preliminary report on the treatment and suggested Etiology of muscle spasm in poliomyelitis by Jos. Lannon, F.R.C.S., and Dr. Jos. L. Braudo, M.B., Ch.B., appears on page 11. Comment by the Editor on this report is published below, and further views of physiotherapists will be welcomed.

As a result of observations made during the 1945 and 1948 epidemics which occurred in South Africa, Mr. Jos. Lannon, a Johannesburg surgeon, has recorded some interesting points regarding the etiology and treatment of muscle spasm in poliomyelitis. These he has incorporated in a preliminary report which was published recently in the S.A.M.J. and is now reprinted on page 11.

Lannon puts forward a physiological concept of the etiology of the spasm which occurs in the early stages of the disease, and suggests that it is related to lesions in the sympathetic ganglia. The lesion results in sympathetic overactivity. This, in turn, leads to a condition of heightened muscle tone or spasm.

His concept differs from that of Toomey and other authorities with regard to the mechanism of spasm. The latter, whose views have so far been universally accepted, regards spasm as a secondary manifestation which occurs as a reflex tonic contraction in antagonists when spasm has developed in the agonists. Samson Wright states that sympathetic innervation is in no way responsible for the maintenance of muscle tone. Section of the sympathetic supply to a limb which is spastic as a result of a pyramidal lesion does **not** modify the degree of hypertonus which is present. He adds, however, that secondary changes may develop in the muscles owing to alteration in their blood supply. Even more emphatically he goes on to state that it is certain that muscle tone depends on a proprioceptive reflex arc which involves the **somatic nervous system alone**.

In Australia, Hunter and Royle claimed success in spastic conditions through sympathectomy. Their work was demonstrated in England, but attempts by others to substantiate their claims proved of no value and their claims were not accepted.

Despite the fact that etamon normally acts in a manner calculated to cause a temporary blockage in the transmission of impulses through the autonomic ganglia, it is felt that there must be some other mechanism through which the drug relieves the spasm of striated muscle in poliomyelitis.

When the author gets away from theory and quotes the results of etamon therapy, several of his statements require further elucidation. For example, he reports the dramatic disappearance of four equinovarus deformities immediately after etamon. In two other cases with flexion deformities of the wrist and fingers with marked adduction at the shoulder joint, "complete return of function" is claimed soon after treatment. In neither of the cases quoted is there any evidence of a follow-up having been carried out, nor is there any specific mention of paralysed muscles. In the latter two cases, however, if the expression "complete return of function" is taken at face value, it can only be assumed that it applies to both the spastic and the temporarily paralysed muscles.

Lannon then goes on to state that an important feature in some cases was the restoration of function in muscles which hitherto were regarded as "paralysed," and adds that this was due to the fact that

muscular power was disguised by the existing spasm in the muscles themselves or in their antagonists. Most authorities on poliomyelitis regard the restoration of function which occurs in some of the originally affected muscles as a perfectly normal phenomenon. A knowledge of the pathology of the disease enables one to understand just why this recovery should take place spontaneously in some cases.

According to Sir Jas. Purves-Stewart, in the 3rd or paralytic stage there is hyperaemia and perivascular infiltration, especially of the anterior horns, for which the virus has a special affinity. The anterior cornual cells become oedematous and inactive and, if degeneration of these cells supervenes, the corresponding muscles undergo permanent paralysis and atrophy. With reference to this, Cholmley observes that only certain of the anterior horn cells will be destroyed, but owing to the oedema in the affected area, neighbouring nerve cells may be temporarily put out of action and on this account, the acute paralysis may be more extensive than the final picture, **even without treatment.**

Mennell is even more definite. He states that it is a well known fact that, however complete the paralysis may seem at first, some return of power at a fairly early date is usually to be expected. In other words, some of the fibres are paralysed, not by disease of the nerve cells to which they owe their innervation, but because these cells are in close proximity to others which have suffered. Unless the utmost

care and attention is paid to these cases, not only do these muscle fibres fail to recover whose nerve supply is destroyed, but also those fibres whose nerve cells were temporarily affected.

In the light of these views, it seems reasonable to assume that in the cases quoted by Lannon, spasm developed in the antagonists during the period when the agonists were still paralysed by the pressure on their anterior horn cells. On etamon being administered, this spasm disappeared and the return of muscular power became apparent.

With reference to Lannon's observation that spasm in the muscles themselves may have disguised the return of muscular power, this is a very moot point. Despite a certain amount of credence being accorded to Sister Kenny's assertions to this effect, her claims have never received the unqualified support of the medical profession as a whole.

In conclusion, it must be stated that, regardless of how Mr. Lannon's theories are viewed, the fact remains that if etamon actually does produce complete relaxation of the antagonists in poliomyelitis, a most useful weapon will have been made available in dealing with the early painful stages of the disease. Of particular interest to physiotherapists is the fact that use of the drug will enable efficient and progressive physiotherapy and re-education to be instituted at the earliest possible moment.

It is understood that Mr. Lannon is to publish a more comprehensive report in the near future.

THE POLIOMYELITIS RESEARCH FOUNDATION

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In recent months a nation-wide organisation has been formed under the title of the Poliomyelitis Research Foundation.

Headquarters of the National Committee of the Foundation is in Johannesburg, and already local committees have been formed in many of the principle centres of the Union.

While this body will be primarily concerned with research, it is felt that it deserves the interest and support of physiotherapists. We therefore recommend it to all, and especially to those who have occasion to deal with the victims of poliomyelitis in the normal course of their work.

The National Organising Secretary of the Foundation has supplied the following explanatory article which not only deals with its aims but also points out a suggested means for organising local committees.

Epidemics of poliomyelitis are occurring with increasing severity in Europe, America and Asia. The Union of South Africa had its first epidemic as recently as 1944-45, followed by a second, then a third considerably more severe, in the summer just past. It is virtually certain that unless preventive

measures can be instituted we shall have a series of epidemics of increasing severity as has occurred in other countries.

Poliomyelitis has become the most serious of the epidemics threatening humanity. Unlike the other major epidemic diseases, medical science has not yet