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Synchronization of Action Current Waves from Homologous Muscle Groups during Reflex Activity

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BIRTH INJURY IN RELATION TO MENTAL
DEFICIENCY

ALICE A. JEWELL

The study of birth injury as a major cause of non-hereditary feeble-mindedness and as a category of mental subnormality is comparatively new but rapidly progressing. Some of the major aims of such a study have been to use orthopedic diagnosis and treatment and to perfect evaluation of mental examination methods for these cases as well as to develop better standards of measurement. The mental growth of these children is known to begin later and continue longer than that of other groups of defective children. This would indicate that training of a special type should begin early and continue beyond the usual limits. The value of muscle training in the earlier years of these children's lives seems to be proving its value as a means of opening windows for their intellectual growth. Outside of the value of such a study to the children involved, there is the point of view of scientific research which indicates the better understanding of the relation of all adjustment to cerebral structure.

DES MOINES.

SYNCHRONIZATION OF ACTION CURRENT WAVES
FROM HOMOLOGOUS MUSCLE GROUPS
DURING REFLEX ACTIVITY

MERVIN PATTERSON

By means of two perfectly matched, non-interfering, amplifying-recording units, action currents were recorded simultaneously from two homologous muscles during reflex response. A common stimulus was used to elicit the reflex. The homologous muscles studied were the gastrocnemius, the quadriceps femoris, and the masseter in the human being. In all homologous pairs of muscles studied the action currents were practically the same for each member of the pair with respect to frequency, intensity, and wave form. These results show that homologous muscles have a common integrating center in reflex activity, and that neither the motor nerve nor the muscle masses alter the discharge from this common integrating nerve level.

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