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## The Relationship Between Brain Rhythms and Certain Muscular Rhythms

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times lasting for five minutes. Raising the arm at elbow produced prolonged and often 100 per cent adaptation with occasional depressions. In a supplementary experiment, in which the subject's name was repeatedly called by *E*, waves did not return normally until after the fourth call, sometimes later. There were individual differences in regard to pattern, extent and nature of adaptation and amount of depression.

It was concluded that, in general, psychological and neuromuscular adaptation to a task showed a great deal of correspondence with the adaptation (i.e., regaining of amplitude) of the brain rhythm.

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## BRAIN POTENTIALS DURING SILENT AND ORAL READING

JOHN R. KNOTT

Brain potentials have been recorded during silence, during silent reading, and oral reading. While it has been assumed that potentials cannot be picked up during strong, complex stimulation, the results indicate that they can be.

Analysis of the data indicates an hypothesis to the effect that complexity of cortical functioning is associated with complexity of the electrical activity of the cortex.

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## THE RELATIONSHIP BETWEEN BRAIN RHYTHMS AND CERTAIN MUSCULAR RHYTHMS

CHARLES N. COFER

In this study an attempt was made to find out whether there is a relationship between the electrical potentials from the left motor area of the brain and the tremor of the third finger of the right hand. Some records also were taken from the visual area and

from the index finger. The brain wave and the tremor were recorded simultaneously on sensitised paper.

On the basis of the data collected and studied, there seems to be no relationship between the two rhythms. The frequencies are different, the tremor being somewhat faster than the brain wave. Thus, the phase relationship constantly changes. These results are contradictory to those obtained by Jasper (Cold Spring Harbor Symposia on Quant. Biol., 1936, 4, 320) despite the fact that his conditions have been duplicated insofar as they could be determined. Furthermore, it was found that in practically all cases where a small alpha rhythm was extant, the tremor did not differ greatly from that for subjects with a large alpha rhythm. This fact seems further to deny the existence of a relationship. Further analysis of the data is being carried on.

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## EFFECT OF AUDITORY AND VISUAL STIMULI ON BRAIN POTENTIAL RHYTHMS

BETTY M. MARTINSON

This study attempts to compare the blocking of the Berger rhythm caused by visual and auditory sensations. Four stimuli were used — a bright light of one hundred (100) watts, a dim light of twenty-five (25) watts, a thousand cycle tone at approximately seventy (70) decibels, and a similar tone at approximately forty (40) decibels. A series of two hundred stimuli composed of fifty of each of these arranged in random order was presented to the subject. The records were read for latency and perseveration of the blocking and the four types of stimulus were compared.

Preliminary data on four hundred presentations indicate that the bright light was the most effective stimulus, producing the shortest latency and the longest perseveration time. The dim light was only slightly less effective. Both lights showed some response to every stimulus but this was not true of the sounds. Neither the tone at seventy decibels nor the one at forty caused blocking in more than one presentation in five. The latencies were approxi-