Extrasensory Electroencephalographic Induction between Identical Twins

Abstract. *Alpha rhythms have been elicited in one of a pair of identical twins as a result of evoking these rhythms in a conventional manner solely in the other.*

Previous studies of the effects of blackout in photic driving of the alpha rhythm in the electroencephalogram (EEG) emphasized the fact that some subjects, when being stimulated in this manner, become ill (*1*). The nonscientific literature is replete with instances in which illness or trauma in one of a pair of identical twins affects the other, even though the twins are far apart and each is unaware of the situation affecting the other. From these isolated observations it was hypothesized that possibly photic driving in one identical twin, with or without provoking illness, would produce a similar response in his sibling. Unfortunately, the low incidence of both photic driving and identical twins makes it extremely difficult to find individuals combining these two characteristics. Therefore, it was decided to test the hypothesis with alpha rhythm, usually defined as rhythmic waves of approximately 50 μv occurring with a frequency of 8 to 13 cy/sec.

Alpha rhythm ordinarily can be elicited under the following circumstances: when the subject closes his eyes, when he stares at a uniform unpatterned background, or when he sits in the dark with his eyes open. Since eye closure in a lighted room elicits immediate and reproducible results it was chosen as the method for our investigations. A few of the subjects were known to us. Most were selected from among those who had answered advertisements placed in the newspapers. No specific criteria other than close similarity in appearance and a history of identity confusion were used to establish monozygosity. The twins were seated in separate lighted rooms 6 m apart and were instructed to open and close their eyes only on command. Electrodes were inserted subcutaneously over the occipital protuberances. A standard EEG electrode was used as a ground. The amplified signals were recorded on a Beckman Dynograph and a Honeywell Visicorder. The subjects were asked to sit quietly, remain serene, and leave their eyes open except when instructed otherwise. Unrelated subjects were recorded with one another, and with the twins, to rule out instrumental artifacts, such as "crosstalk" between the channels. Analysis of the records was by gross inspection. The evidence sought was the presence or absence of alpha patterns and their correlations in tracings obtained from the subjects.

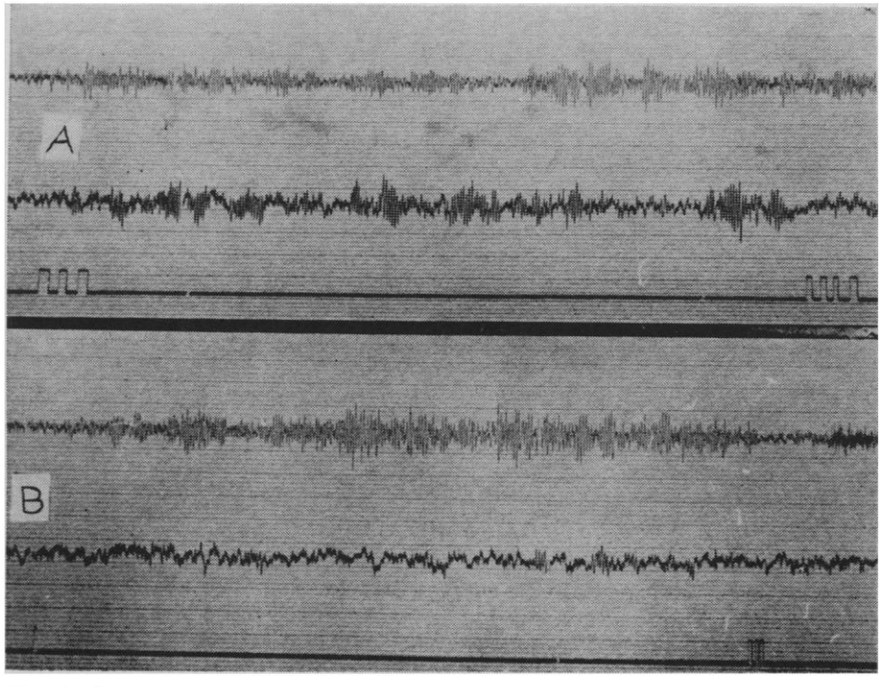

Fig. 1. Simultaneous recording of EEG. (*A*) Identical twins. Eye closure in one (bottom trace) produces alpha rhythm in both. (*B*) Eye closure in one of these twins (top) fails to produce alpha rhythm in an unrelated subject.

Extrasensory induction is the appearance without conventional elicitation of an alpha rhythm in one twin while it is being evoked under standard conditions in the other (Fig. 1). To date, extrasensory induction has been found in 2 out of 15 pairs of twins tested. These were intelligent, educated, serene Caucasian males 23 and 27 years of age. The remaining 13 pairs of twins in whom extrasensory induction could not be demonstrated included Caucasians and Negroes of various ages and of both sexes. Prominent characteristics of the 13 pairs were patent anxiety and apprehension about the testing procedure. By contrast, the aforementioned two pairs happened to possess a prior knowledge of biological sciences and were relatively unconcerned about the tests. To establish the validity of these findings, the tests were repeated on several different occasions. In no instances did the induction occur between unrelated subjects. Finally, none of the individuals tested displayed photic driving. Thus extrasensory induction of brain waves exists between individuals when they are completely separated. It certainly is not a universal trait in all identical twins. Our series of experiments does not permit us to draw any conclusions regarding the incidence of this phenomenon.

Because of the paucity of controlled data, contrasted with the voluminous controversial information available on the subject of extrasensory perception, it appears unwise to draw any conclusions or to make any statements regarding these aspects of our investigations.

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References and Notes

1. T. D. Duane, D. H. Lewis, S. D. Weeks, J. F. Toole, *Neurology* **13**, 259 (1963).
2. Supported by NIH grant NB 04233-04.

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