

June 4, 1964

Mr. Harry Henderson
World Wide Medical News Service, Inc.
130 East 59th Street
New York, New York 10022

Dear Mr. Henderson:

Following our discussion this morning, I would like to recommend the following for your consideration in your Roche Report.

On Page 4, following discussion of Drs. Berger, Gibbs, Davis and Lennox, it will be appropriate to make some reference to studies using frequency analyzers made by Hoagland in the late '30s, and by Dr. Margaret Kennard in the '50s. Dr. Hoagland, working with Malamud and Pincus, published an article in 1938 in which they relate the behavioral changes in a group of depressive subjects, and changes in hormonal level and EEG frequencies. Dr. Kennard has written a number of articles on the differences in frequency pattern between schizophrenics and other psychotic subjects. She has indicated that psychotic subjects showed different frequency patterns in different parts of the head as if the electrical activity was poorly organized.

During the same period of time, Dr. Ulett, in St. Louis, using frequency analysis, demonstrated that brain wave patterns differed according to the treatment results seen in his patients.

Concurrently, Charles Shagass, now of the University of Iowa, and Douglas Goldman of Cincinnati, used frequency analysis to show that the changes in frequency pattern after a barbiturate differentiated schizophrenics from other psychotic subjects.

It seems to me that a summary of these observations subtly leads to the top of Page 5.

Page 5, line 2: I would suggest the deletion of the word "subjective".

Page 5, paragraph 3, line 4: "...new wave forms of rhythms" should be "...new wave forms and rhythms."

Page 5, paragraph 3, line 7: I would appreciate the designation "The Missouri Institute of Psychiatry in St. Louis" rather than the sentence as it now reads.

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Page Two

Page 6, paragraph 2: The phrase "Among the new wave forms found" implies that the administration of drugs produced new electrical patterns which were not discovered by Gibbs at all. This is not true. I think the phrase should read "Among the new wave forms which may be introduced in the record..."

Page 7, paragraph 3: The quotation ascribed to me has left out a word after "operational", and I believe it can best be completed by "...the operational criteria for patient selection for these needed basic studies."

At the present time the centers which are known to me to be doing the best quantitative work are the following:

- (1) U. C. L. A. - Brain Research Institute. The computer applications are headed by Dr. Mary A. B. Brazier, who is working with the methods of auto-correlation and cross-correlation, and by Dr. Ross Adey, who is actively working with a power spectrum model. The actual investigations into changes in the depths of the brain are being done by Dr. Richard Walter.
- (2) Tulane University - Department of Psychiatry. Dr. Robert Heath has been studying the effects of drugs on depth recordings in psychiatric patients using computer methods with the base line cross method of EEG analysis of Dr. Neil Burch as a model.
- (3) Massachusetts General Hospital. Dr. Frank Ervin has been actively involved in studying depth recordings in a variety of patients using many different methods of analysis.

Other centers are opening up rapidly, and there is accent on it at New York Medical College (Dr. E. Roy John), University of Iowa School of Medicine (Charles Shagass), and Duke University (Dr. Walter Obrist).

I hope this information is of help to you. I think your article is an important one, and I am grateful for your interest in this type of research.

Sincerely yours,

Max Fink, M. D.
Director

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