

had had considerable experience in recording and evaluating brain potentials identified the records. The particular records identified were relatively new to each of us. The one to identify the record was given the matching sample and was instructed to find its mate on the wall. When he had made his decision he was not told whether he was right or wrong. Several days later, each of us repeated the task of matching. This whole process was repeated for the second half of the 44 records so that each one of us identified each record twice.

A total of 352 identifications were made (8×44). By chance, 4.5 per cent. of the records could have been correctly identified. Ninety-four per cent. of the records were correctly identified (20 errors). Seven records were missed by some one of us; one by three of us; and five by two of us. Thirty-one of the 44 records were not missed by any of us.

Some records were identified very easily and quickly. This was so because they had very distinctive characteristics. As may be judged, one or two of the records which were missed by two or three of us were very difficult to identify. This was so because two or three of the records were strikingly similar.

Every one of us became more accurate as we progressed from the first to the fourth trial. Two of us got 91 per cent. right the first time, and 100 per cent. right the fourth time. The other two got 82 per cent. right the first time and 100 per cent. right the fourth time. We are inclined to believe that this indicates learning what characteristic details are distinguishing.

Each of us listed the criteria by which we matched the records. Frequency, amplitude and form of the waves, each played its part. Under form, such characteristics as beta waves, the shape of the alpha waves and the relationship between the negative and positive deflections were noted. Also, we appeared to size up the records as a whole, evaluating such factors as trains, stability of the base line and fluctuations in frequency and amplitude of the waves. Certain other possible cues need to be mentioned. Because of differences in developing the sensitized recording paper from time to time, records differ from each other in regard to color, under- or over-development and accidental exposure to light. Some differences between records were also caused by differences in width of the time line, speed in passage of the paper and wrinkling. One is never certain that he has been able to eliminate such accessory cues, but trials made to see to what extent identification could be carried out by these alone showed them to be as confusing as helpful.

Our conclusion is that human brain potentials have individuality and that an individual can be distinguished from other individuals by his brain potentials. We don't know yet how consistent an individual's brain

potentials are from day to day. This is the next question to settle.

LEE EDWARD TRAVIS
ABRAHAM GOTTLÖBER

STATE UNIVERSITY OF IOWA

THE USE OF THE TERMS COENOCYTE AND SYNCYTIIUM IN BIOLOGY

THE terms coenocyte and syncytium are frequently confused in biological literature. They are always used to describe multinucleate masses of protoplasm, but some writers use the words synonymously, while others have assumed a difference without making a clear distinction between the two terms. Neither do the definitions as given in Webster's New International Dictionary, second edition, 1935, help to clarify this confusion.

Since, in biology, there are two types of multinucleate masses of protoplasm with respect to ontogeny and since there are in use two terms for such structures, it seems highly desirable that the terms be differentiated and used consistently in the interest of proper comprehension and exact expression. The two ontogenetic types of such structures are: (1) an enlarged protoplast, the nuclear divisions of which have not been followed by cytoplasmic cleavage, and (2) a protoplasmic mass formed by the fusion of several protoplasts without the fusion of the individual nuclei. Examples of the former are: the filaments of *Vaucheria* and *Rhizopus*, segments of *Cladophora* filaments and *Hydrodictyon* nets, embryo sacs of seed plants, latex cells and striated muscle fibers. Examples of the second category are young xylem tracheae, latex vessels and young plasmodia of *Myxomycetes*.

The term coenocyte should be used in connection with the first type of structure described above, and syncytium with the second. This distinction was clearly brought out in S. H. Vines's "Textbook of Botany," 1895, pp. 90-91. In response to a letter of inquiry sent recently to the editors of Webster's New International Dictionary, the same interpretation was held: "... the multinucleate structures that are called *coenocytes* arise . . . by enlargement, along with nuclear divisions, of single protoplasts, while the multinucleate structures that are called *syncytia* arise by the uniting of separate protoplasts."

About the only distinction one can find in modern biological literature is that zoologists as a rule use only the term syncytium, while botanists tend to use coenocyte nearly to the exclusion of the other term!

REXFORD F. DAUBENMIRE

THE UNIVERSITY OF IDAHO

THE BLACK WIDOW SPIDER IN VIRGINIA

IN his note entitled "New Localities for the Black Widow Spider" in *SCIENCE* for November 13, 1936, Lowrie makes the statement that this spider has not