They Can Be Divided Y-9

We All Have a 'Pair of Brains'

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Science Writer

Two California scientists have demonstrated conclusively that every human has not one but two brains — each with its own mind or consciousness.

Dr. Roger W. Sperry Hixon, professor of psychobiology at the California Institute of Technology, Pasadena, and Dr. Michael S. Gazzaniga, now assistant professor of psychology at the University of California at Santa Barbara, have led the researches which show that man has a "pair of brains" and a "pair of independent minds."

Medical scientists heretofore have regarded the two hemispheres, half globes, inside the head as halves of a single global brain, and mind or consciousness as a unified mental experience. But, studying the brains of cats, Doctor Sperry discovered the two hemispheres really serve as separate but connected brains.

TISSUE BRIDGE

Normally in man, as in cats or other mammals, the two hemispheres are principally connected by a nervous tissue bridge, and appear to operate as a single organ. Actually, the two brains are Siamese Twins, and can be divided by surgery, apparently without damage.

"Bisection" of the two brains has been done in 10 patients of severe, otherwise uncontrollable epilepsy.

The first operation was performed on a 43 year old epileptic in 1962 at the White Memorial Hospital, Los Angeles. Doctor Hixon thrilled that epileptic fits could be reduced by separating the hemispheres of the brain.

FITS ENDED

Surprisingly, the fits ceased altogether.

Next patient was an 11 year old schoolboy whose frequent fits left him unable to study. Separating his left and right brain surgically made him normal.

As a psychologist, Gazzaniga made many tests to determine how the brain separation affects performance of the senses, muscular organs, emotional and intellectual activities.

All tests showed, as this psychologist reports in "Scientific American," that each brain hemisphere behaved quite independently.

Following the operation on an epileptic man, it was observed that the two brains, now parted, showed "opposite" wills. When this man was pulling on his trousers, his left hand sometimes worked against the right. One hand pulled up, the other down.

HELP EACH OTHER

While his right hand pulled his wife toward him, his left hand pushed her away aggressively. But eventually the two independent brains began to help each other.

As far as emotions are concerned, the two brains seem to behave almost equally but in different styles.

When Doctor Gazzaniga presented a picture of a nude woman to a woman patient with freshly separated brains, her right and left brains reacted emotionally, but differently. Perceived by the left brain, the picture made the patient burst into a laugh, and she said that she saw a nude woman. But the right brain's perception resulted in a sly smile, and she was unable to say the words "nude woman."

LANGUAGE POWER

In language capacity, particularly, in all patients the left brain was definitely superior to the right brain. However, according to Doctor Gazzaniga, in a two to three year old child, the two brains are equally proficient even in language capacity. As development takes place, the capacity of the right brain becomes somehow inhibited, thwarted.

On the whole, in grown ups, one brain, usually the left, is dominant, while the right one behaves as a minority brain.

However, suppose the brains were separated at an early age, when both had equal capacities. Then a person might grow up with two fully efficient brains, working in agreement established by education. Such a person would be twice-brained, double-minded—a superior mental being.

Following the operation the epileptic patient can carry on two utterly different tasks with eyes or hands as fast as the normal person performs just one task.