

Mind and Brain.

ED TORCH:—I was very much interested in the article; "If a man die shall he live again," in a late issue of the Torch. I have for a long time believed that the only correct answer to that question is an unqualified no. Believers in a future life can give us no adequate reason for their belief.

Christians will not attempt to answer the question "What is soul or spirit?" Spiritualists however (at least some of them) tell us that the spirit of man, that part that lives after death, is his mind. What is mind? Merely the capacity for thought, the ability to think. Can the ability to think exist after the brain, the organ of thought, has ceased to exist?

That the brain is the organ of thought, and that the mind, or the ability to think depends whole upon the quality and the quantity of the matter composing the brain, is as evident as that the stomach is the organ of digestion. Mind can no more exist independent from its particular organ than can mind separated from its particular organ. There is throughout the whole animal kingdom a gradual progression from the lowest to the highest organisms, of brain quality, corresponding to their capacity for thought. Man, who has the greatest mind i. e., the largest capacity to think also has the largest brain, absolutely and comparatively among all living beings. It is true, however that a few animals such as a whale, elephant and dolphin, have a larger bulk of brain than man, but the excess is in quantity in parts that do not have anything to do with intelligence but serve the nervous system of the body as centers of movement etc. while the parts of the brain that do have to do with the function of thought are not equal in size, form or quality to the corresponding parts in man. The average comparative weight of the brain of man amounts from one fiftieth to one thirtieth part of the weight of the body, while in the dolphin it is only the one hundredth, in the elephant the five hundredth and in the whale the three thousandth part of the aggregate weight of their respective bodies.

The relative weight of brain in some of the divisions of animals are as 1.8 in fishes, 7.6 in reptiles, 42 in birds, 53 in mammals, while in man it is 277. That man's mind, or thought ability stands in about the same relative proportion is a demonstrated fact.

Bees and ants have a very large brain in proportion to their bodies, and their superior intelligence is well known. However, it is not bulk of brain matter alone that determines mind, or thought capacity, but its composition and shape plays a very important part.

In man the external layer of gray matter, the seat of thought activity, completely covers the cerebellum, while this is not true of any other animal. Then too, the mind depends very largely on the convolutions of gray matter or "brain mantel" as it is sometimes called. These convolutions or folds in the human brain, in point of extent, depth and number, far exceed those of any other animal. The farther you go from man down to the different classes of animals the more rapidly do these convolutions decrease, and when you get as far down the scale as fishes, they entirely disappear, and are nearly extinct in birds, while in ants and bees they are quite numerous. Then again, the same thing occurs in individual human brains—the greater the development of the gray matter and the convolutions the greater the capacity for thought i. e. the greater the mind.

Dr. Wagner found the aggregate surface of the brain of an orang-outang to be only one fourth that of the average human brain, and a man who worked at manual labor had a brain with 52 square inches less surface than that of two scientists. He also found the convolutions of the brain of Beethoven the musician to be "twice as deep and numerous as usual."

A child has a very large brain compared to the size of the body, but the convolutions are very imperfect and develop with the growth of the child. Aside from the size and convolutions of the brain there are other conditions such as internal structure, chemical composition, and density or firmness on which the mind depends very largely.

The brain of an intelligent person is much more dense and firm than that of a weak minded one; and this is true also of different races of men. "Just in proportion as the distinct fibers, the difference between the white and the gray matter, the larger blood supply, the convolutions etc, become apparent—just in proportion as these develop does the mind, or thought capacity increase. While on the other hand as the brain grows old it shrivels up; the convolutions become further apart and smaller; the space between them absorbs more water than formerly; the color becomes deeper gray; the blood supply less, and the brain and mind returns to a condition similar to that of childhood. It has been said that "the greatest thinker of his age may in a single hour of sickness lose all his intelligence."

"If the blood circulates too rapidly in the brain the ideas become confused; if there is any obstruction in the nerves of the brain insanity follows; if a drop of water passes into the cranium the result is a loss of memory; while a drop of blood escaping from the

vessels of the brain causes apoplexy." These things are contrary to what would occur if the mind was independent of, and could exist without the brain.

We have seen how the mind is dependent on the brain for its existence and development; how it is as much a product of the brain as is circulation and digestion a product of the heart and stomach. One function can no more exist independent of its particular organ than can another function exist without its particular organ.

J. P. McCLUSKEY.

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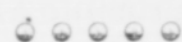
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