

tion of the mammal-brain which we call the seat [preferably the organ] of consciousness is a part of the cerebrum, an area in the late-developed gray bed, or cortex, which is evolved out of the convex dorsal portion of the primary cerebral vesicle, the "fore-brain." Now the morphological proof of this physiological thesis has been successfully given by the remarkable progress of the microscopic anatomy of the brain, which we owe to the perfect methods of research of modern science (Kolliker, Flechsig, Golgi, Etinger, Weigert, and others).

The most important development is the discovery of the organs of thought by Paul Flechsig, of Leipzig; he proved that in the gray bed of the brain are found the four seats of the central sense-organs, or four "inner spheres of sensation"—the sphere of touch in the vertical lobe, the sphere of smell in the frontal lobe, the sphere of sight in the occipital lobe, and the sphere of hearing in the temporal lobe. Between these four "sense-centres" lie the four great "thought-centres," or centres of association, the real organs of mental life; they are those highest instruments of psychic activity that produce thought and consciousness. In front we have the frontal brain or centre of association; behind, on top there is the vertical brain, or parietal centre of association, and underneath the principal brain, or "the great occipito-temporal centre of association" (the most important of all); lower down, and internally, the insular brain or the insula of Reil, the insular centre of association. These four "thought-centres," distinguished from the intermediate "sense-centres" by a peculiar and elaborate nerve-structure, are the true and sole organs of thought and consciousness. Flechsig has recently pointed out that, in the case of man, very specific structures are found in one part of them; these structures are wanting in the other mammals, and they, therefore, afford an explanation of the superiority of man's mental powers.

The momentous announcement of modern physiology, that the cerebrum is the organ of consciousness and mental action in man and the higher mammals, is illustrated and confirmed by the pathological study of its diseases. When parts of the cortex are destroyed by disease their respective functions are affected and thus we are enabled to some extent, to localize the activities of the brain; when certain parts of the area are diseased, that portion of thought and consciousness disappears which depends on those particular sections. Pathological experiment yields the same result; the decay of some known area [for instance, the centre of

speech] extinguishes its function [speech].

In fact, there is proof enough in the most familiar phenomena of consciousness of their complete dependence on chemical changes in the substance of the brain. Many beverages [such as coffee and tea] stimulate our powers of thought; others [such as wine and beer] intensify feeling; musk and camphor reanimate the fainting consciousness; ether and chloroform deaden it, and so forth. How would that be possible if consciousness were an immaterial entity, independent of these anatomical organs? And what becomes of the consciousness of the "immortal soul" when it no longer has the use of these organs?

These and other familiar facts prove that man's consciousness—and that of the nearest mammals—is changeable, and that its activity is always open to modification from inner [alimentation, circulation, etc.] and outer causes [lesion of the brain, stimulation, etc.] Very instructive, too, are the facts of double and intermittent consciousness, which remind us of "alternate generations of presentations." The same individual has an entirely different consciousness on different days, with a change of circumstances; he does not know today what he did yesterday: yesterday he could say, "I am I"; today he must say, "I am another being." Such intermittence of consciousness may last not only day, but months, and even years; the change may even become permanent.

As everybody knows, the newborn infant has no consciousness. Preyer has shown that it is only developed after the child has begun to speak; for a long time it speaks of itself in the third person. In the important moment when it first pronounces the word "I," when the feeling of self becomes clear, we have the beginning of self-consciousness, and of the antithesis to the non-ego. The rapid and solid progress in knowledge which the child makes in its first ten years, under the care of parents and teachers, and the slower progress of the second decade, until it reaches complete maturity of mind, are intimately connected with a great advancement in the growth and development of consciousness and of its organ, the brain. But even when the pupil has got his "certificate of maturity" his consciousness is still far from mature; it is then that his "world-consciousness" first begins to develop, in his manifold relations with the outer world. Then, in the third decade, we have the full maturity of rational thought and consciousness, which, in cases of normal development, yield their ripe fruits during the

next three decades.

The slow gradual degeneration of the higher mental powers, which characterizes senility, usually sets in at the commencement of the seventh decade—sometimes earlier, sometimes later. Memory, receptiveness, and interest in particular objects gradually decay; though productivity, mature consciousness, and philosophic interest in general truths often remain for many years longer.

The individual development of consciousness in earlier youth proves the universal validity of the biogenetic law; and, indeed, it is still recognizable in many ways during the latter years. In any case, the ontogenesis of consciousness makes it perfectly clear that it is not an "immaterial entity," but a physiological function of the brain, and that it is, consequently, no exception to the general law of substance.

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Moreover, that highest stage of consciousness, which is reached by man alone, has been evolved step by step—even by the very progress of civilization—from a lower condition, as we find illustrated today in the case of uncivilized races. That is easily proved by a comparison of their languages, which is closely connected with the comparison of their ideas. The higher the conceptional faculty advances in thoughtful civilized man, the more qualified he is to detect common features amid a multitude of details, and embody them in general concepts, and so much the clearer and deeper does his consciousness become.

#### Book Notes.

[From "Little Journeys to the Homes of English Authors," from the "Philistine, a periodical of protest," published by the Roycrofters, East Aurora, N. Y.]

Quaintness and humor and wisdom are a trinity which we all worship. Even the sad victims of "the liver-trouble belief" cannot be wholly indifferent thereunto. So all welcome these "Journeys" and the "Philistine" which put a soft mellow, yet alterative sunlight over the world, and make us see and feel, and so appreciate things and fellows as we could not before. Did we ever see and feel our creed, for instance, more lovingly and livingly than in these words over poor Coleridge.

"We no longer accept the doctrine that our natures are rooted in infamy, and that the desires of the flesh are cunning traps set by Satan, with God's permission to undo us. We believe that no one can harm us but ourselves, that sin is misdirected energy; that there is no devil but fear, and that the Universe is planned for good.

On every side we find beauty and excellence held in the balance of things. We know that work is needful, that winter is as necessary as summer, that night is as useful as day, that death is a manifestation of life, and just as good. We believe in the Now and Here. We believe in you, and we believe in a Power that is in Ourselves that makes for Righteousness."

Yes, "the Universe is planned for good" as we adapt and adopt it to our goodness, as stock and scion to each ether. Thus the goodless and badless wild of the Universe becomes our flower and fruit garden, as the good makes it "good." And yet nature makes us too, and "is made better by no mean, but nature makes that mean."

#### Who Owns The Child?

The child belongs to itself, and not to the State or the Church, nor the parent. The doctrine that the child belongs to the parent, is a survival of the savage times when the father might sell or kill his child. According to the priests of all religions the child belongs to God and parents must hand it to them as his vicars. By our civil law, made by the people for the people, the child is not a property but a personality, and the State is the guardian of the child as a coming factor in the civil firm. As the State holds the man responsible to itself, so also is it responsible to the child, and is both entitled and bound to see that it is protected and rightly educated as a citizen, loyal first of all to that government which cares for its welfare and claims its future support.

The regent of that religion which more than any other asserts its authority above all others, is most inconsistent of all together, in demanding rights on the grounds of those secular and religious liberties which it is one of its four cardinal principles to condemn and to ever affirm the Church above the State! If the State has any right, it is to repel such doctrine, and if the child has any right, it is to rebel against being taught such dogmatism as this and its like abominations. The whole logical argument against the Bible in public school is this: The Bible is a religious book, the public school is a secular institution.

We do not insist enough on the rights of the State to control the education of the children and to resist the efforts of the Church, or rather of its priests who try to twist heaven and earth to their own will. When the Catholics stop their holy devotions in those public schools which they control we can think them more sincere in their protest against sectarian teaching in secular institutions.

J. P. G.

People who act very small are not to be noticed.