

Chapter 2 — Brain, Mind, and Personality

*of The Physiology of Faith and Fear:
or, The Mind in Health and Disease*
(1912)
by
William S. Sadler, M.D.

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Sources for Chapter 2, in the order in which they first appear

- (1) William Hanna **Thomson**, M.D., LL.D., *Brain and Personality: Or the Physical Relations of the Brain to the Mind* (New York: Dodd, Mead & Company, Eighth Edition, 1908)
- (2) Alfred T. **Schofield**, M.D., M.R.C.S., *The Force of Mind: Or, The Mental Factor in Medicine, Sixth Edition* (New York: Funk and Wagnalls Company, 1908)
- (3) Albert B. **Olston**, *Mind Power and Privileges* (New York: Thomas Y. Crowell & Co., 1902)

Key

- (a) **Green** indicates where a source author (or a previous Sadler book) first appears, or where he/she reappears.
- (b) **Yellow** highlights most parallelisms.
- (c) **Tan** highlights parallelisms not occurring on the same row, or parallelisms separated by yellowed parallelisms.
- (d) An underlined word or words indicates where the source and Sadler pointedly differ from each other.
- (e) **Pink** indicates passages where Sadler specifically shares his own experiences, opinions, advice, etc.
- (f) **Light blue** indicates passages which strongly resemble something in the Urantia Book, or which allude to the Urantia phenomenon.

- (g) **Red** indicates either an obvious mistake, in most cases brought about by Sadler's miscopying or misunderstanding his source, or an otherwise questionable statement on Sadler's part.

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II: BRAIN, MIND, AND PERSONALITY

I: HISTORICAL INTRODUCTION (Thomson 1)

[H]owever discussion about mind may be waived as pertaining to the province of metaphysics this cannot be done with that collection of matter which is called the brain. In it mind and matter come together, and therefore we cannot help asking how much the one is dependent upon the other (T 1-2).

Thus the word brain does not occur in the Bible,

for the good reason that during the centuries in which its different books were written scarcely any one in the world suspected that this most silent and secluded of organs had anything to do with thought or feeling (T 5).

2:0.1 It is in the brain that mind and matter meet.

Mind is close of kin to personality. The matter composing the human body is constantly changing. The average man eats an amount of food each month equivalent to his own weight. Notwithstanding this ever-changing character of the animal body, the mind continues to direct this new matter in the same old channels; and this explains why a man's personality and identity remain unchanged.

2:0.2 The term *brain* is comparatively recent in its origin—especially as regards its association with the mind as a centre of the intellect.

The word *brain* is not to be found in ancient literature.

The ancients little suspected that the brain had anything to do with thought.

SEAT OF THE INTELLECT

2:1.1 The Babylonians and other ancient nations believed that the liver was the centre of the human intellect.

The earliest identification of the mind with a bodily organ we find among the Babylonians, who located it in the liver (T 5).

With the Hebrews, on the other hand,

the heart was the chief seat of the soul,

while the mind was located in the kidneys.

and all tender emotions in the bowels (T 5).

I: THE FORCE OF MIND (Schofield 1)

Generally speaking, we may regard the brain as the principal seat of mind,

although by no means its exclusive sphere,

which, indeed, extends throughout the entire organism (S 17).

The earliest attempts to connect the mind with some bodily organ, located it in the liver.

Some among the ancients

made an effort to locate the various intellectual processes in different physical organs,

regarding the heart as the seat of the soul and the spiritual faculties,

the kidneys as the abode of the mind or intellect proper,

while all the tender and compassionate emotions were supposed to be located in the bowels.

2:1.2 While our modern thought regards the brain as the seat or headquarters of the intellectual and volitional processes,

it does not by any means limit the scope and work of mind to this single physical organ.

To say the least, the entire nervous system—both the central and sympathetic—must be regarded as the particular and immediate instrument and organ of mind.

I: HISTORICAL INTRODUCTION (Thomson 1)

One of the greatest of ... hindrances was the conception of the brain as a secreting gland, which dates from Hippocrates and continues down to Karl Vogt, Cabanis, and other writers in the earlier years of the nineteenth century, who maintained that the brain secreted thought just as the liver secretes bile (T 14).

[Mind is, however, not simply a secretion of the brain. The two are essentially distinct, like the piano and its player (Alexander Bryce, *The Laws of Life and Health* [1912], p. 371).]

[B]rain matter, as such, does not originate speech ... (T 27).

[Now, as we have remarked before, the gray matter of no one of [the] three seats of words originates or makes any words (T 96).]

2:1.3 The brain does not secrete thought as the liver secretes bile.

That is, the thought does not originate in the brain, any more than food originates in the stomach, although the brain contributes to the elaboration of thought, even as the stomach does to the elaboration of food.

The brain and nervous system sustain the same relation to mind and personality that a harp does to its player—

as a telegrapher does to the wires, batteries, and instruments which he so wonderfully utilizes and marvellously manipulates.

THE TWO BRAINS

2:2.1 The brain itself cannot originate speech.

The brain cannot create words.

SOURCE

[A] most unexpected fact, and one of far-reaching significance, was soon demonstrated, namely, that the anatomical seats of the faculty of speech are found **only in one of the two hemispheres**. Thus, if the Broca convolution, which is the seat of articulate speech, be damaged in a person after middle life,

the loss is usually irremediable, so that he can speak no longer

though the same convolution in the other hemisphere be wholly intact (T 26).

[[A human being] always has **two brains**, and never one brain ... And these two brains are just as perfectly matched and duplicates of each other in all their parts as his two eyes and his two ears are (T 56-57).]

[S]elf-education always begins in our race with the stretching forth of the hand, as any one may note in the first purposive actions of an infant. The **hand** which it then most used to learn by **determined which of its two brain hemispheres** should know speech,

and which hemisphere should remain wordless, and therefore thoughtless, for life (T 27-28).

2: THE PHYSIOLOGY OF FAITH AND FEAR

This is clearly shown by the fact that

when the speech or word-memory centres, on the active side of the brain, are destroyed or diseased,

the power of speech or word-utterance is lost,

notwithstanding the other half of the brain is perfectly whole and healthy.

It may be well in this connection to explain that

while every man has **two complete and perfect brains**,

he uses **only one of them (one side or hemisphere)** in his intellectual operations.

Which side of the brain is destined to become the seat of our intellectual processes is early **determined** by such an apparently simple matter as which **hand** we begin first to make active use of.

SOURCE

In all right-handed persons, it is in the left brain that the speech centers are located;

while in left-handed persons, they are found exclusively in the right brain (T 27).

VIII: THE BRAIN AND PERSONALITY (Thomson 175)

It may be asked by some,

if one hemisphere is not used for thought, then of **what use** is it?

The answer is that

it is of every use as far as motion and feeling are concerned (T 236-37).

VI: THE FACULTY OF SPEECH— CONTINUED (Thomson 106)

2: THE PHYSIOLOGY OF FAITH AND FEAR

If we are right-handed—that determines that we shall be left-brained,

and *vice versa*.

2:2.2 The question will no doubt come into the mind of the reader,

What is the purpose of the other brain or hemisphere, which is not concerned in the intellectual processes of thought elaboration?

That question is answered by explaining that,

while only one side of the brain is directly concerned in ministering to the mind, both its halves are equally concerned in the work of ministering to the body; that is,

both hemispheres of the brain are engaged in the work of receiving sensory impressions and despatching impulses of muscular control and contraction.

Again, this other half of the brain—the intellectually inactive half—serves the splendid purpose of a second or emergency¹ brain, which can be made, by a process of reëducation, to take the place of the other half, in case of accident or disease.

SOURCE

[M]any cases are reported

of children becoming aphasic just as adults do, by the onset of right-sided paralysis with destruction of the left Broca's convolution,

and yet they gradually learn to talk again in much the same fashion in which they acquired speech at first. That they do this by educating the center in the right brain

is proved by parallel cases of the supervention afterwards of total aphasia, when left-sided paralysis was added to their former right-sided paralysis, *i.e.*, by a second injury involving the right centers (T 126-27).

The older the patient is, the more hopeless the case, simply because the unaffected word areas in the other hemisphere have passed the time of life when the gray matter is plastic enough to be fashioned for any new complex function. A healthy man after forty scarcely ever learns a new language well ... (T 128-129).

IV: SIGNIFICANCE OF THE BRAIN BEING A DOUBLE OR PAIR ORGAN (Thomson 60)

2: THE PHYSIOLOGY OF FAITH AND FEAR

2:2.3 Cases are on record,

where certain brain centres, such as those of speech or word-memory, have suddenly been destroyed by accident;

and by persistent training the other hemisphere of the brain was in time educated to take up the work of its destroyed counterpart.

This work of developing and training new brain centres can usually be accomplished in the earlier years of life.

It is quite difficult to effect such change after the age of twenty-five or thirty years.

Nature has very liberally provided us with two eyes and two ears,

SOURCE

Now with the partial exception of the hands and feet, the salient fact about other pair organs [such as the eyes and the ears] in the body is this: *That either one of the pair can do the whole business of both if necessary* (T 60).

II: ACCOUNT OF THE PHYSICAL BASIS OF THE MIND (Thomson 32)

There can be no question also that upon the integrity of this gray matter depends the integrity of all mental processes ...

The most striking illustrations of this kind ... are furnished by the action of **brain poisons**.

In fact a curiously interesting treatise might be written with the title of the "Metaphysics of a Drug Store." Thus, **opium** powerfully **stimulates** those mental processes which are related to the **imagination**,

so that the opium taker becomes intensely interested in his own trains of suggested ideas.

2: THE PHYSIOLOGY OF FAITH AND FEAR

either one of which is quite able to do the work of both.

2:2.4 The brain, then, has come to be looked upon as the servant of the mind, while the mind is regarded as the designer, builder, and maintainer of the personality.

THE BRAIN DOES NOT THINK

2:3.1 That the brain is highly differentiated in its relation to the mental life of the individual

is clearly shown by its behavior to various **chemical poisons** or drugs.

For instance, **opium stimulates** the power of **imagination**,

enabling its victims to be wholly absorbed and fully entertained by the never-ending procession of mental images and other creations which troop through the mind.

SOURCE

He is therefore silent and solitary, and thus contrasts with the alcohol taker,

who has his feelings and emotions so stimulated by that poison that he would fain share them with other persons, and becomes both familiar and talkative (T 43-44).

[T]he brain ... resembles a violin in that, however carefully it has to be constructed in all its parts to become such an instrument ... yet of itself it cannot give forth a musical note ... without a musician to use it. Therefore, though no musician can give us violin music without a violin, so no violin can be musical without a musician (T 35).

[One view] regards the mind as wholly of the brain, and hence the mind can have no existence apart from the brain. The other regards the brain as nothing more than the instrument of the mind, and no instrument can possibly be identical as the agency which uses it (T 36).

2: THE PHYSIOLOGY OF FAITH AND FEAR

On the other hand, alcohol stimulates an altogether different set of mental processes,

exciting particularly the feelings and emotions, rendering its users sociable and communicative—

the opposite of the opium users.

2:3.2 This one thing must be made plain: the brain, in and of its physical self, does not think,

any more than a musical instrument can give forth melody without the touch of the musician's hand.

The brain is indeed the instrument of thinking,

but the mind is the skilful player that makes it give forth the beautiful harmony of thought.

SOURCE

III: BRAIN WEIGHT AND MENTAL FACULTY (Thomson 48)

[contd] What we have arrived at so far is that the gray matter is the physical basis of the mind. No one now disputes this. The **eye** does not see any more than an opera glass sees.

[[T]he eye is no more the seat or source of sight than is a **telescope** or a microscope (T 59).]

It is one place only in the gray cortex which actually sees (T 48)

[A]ll investigators agree that the weight of the brain bears no relation to the mental capacity of man (T 52).

[See T 49-50 for examples.]

Therefore if any conclusions can be drawn from these considerations it would seem as if brain **organization** was **more important than mere size** (T 53).

V: THE FACULTY OF SPEECH (Thomson 75)

The chief facts, indeed, respecting the functions of the different areas of our own brain cortex, so far determined by physiologists, have been deduced from experiments on the brains of anthropoid apes.... Ever since Huxley showed, against Owen, that the human brain has not even one peculiarity not found in a baboon's brain,

2: THE PHYSIOLOGY OF FAITH AND FEAR

The **eye**, of its physical self, can no more see than can a **telescope**;

it is only the sight centre of the brain that can translate visual impressions and re-create images for recognition by the mind.

BRAIN AND MIND

2:4.1 The size of the brain is of but little value in determining the dimensions of the intellect.

A large mind may dwell in a small brain, and *vice versa*.

The **organization** and training of the brain **counts for far more than size**.

2:4.2 Careful examination of the physical structure of the brain of man and of the monkey shows no essential difference;

SOURCE

no one expects that the scalpel will reveal a single physical explanation as to why the mind of a baboon and the mind of a physiologists who dissects him are so infinitely apart (T 77).

We have already likened those speech areas to the shelves of a library, with words arranged thereon like so many volumes, and that something very similar to this is actually the case, is demonstrated by facts such as these (T 96).

[O]ther facts show that

the books may be so jammed sidewise, so to speak, that not one of them can be got out, in which case the event proves that on each shelf the verbs are placed first,

the pronouns next,

then the propositions and adverbs next,

2: THE PHYSIOLOGY OF FAITH AND FEAR

and yet a like examination of the mental phenomenon exhibited by the two presents abundant evidence that

their minds are in every way unlike.

The mind of the man not only eclipses that of the monkey in every phase of reason and every realm of thought, but presents the strange spectacle of possessing certain moral and spiritual attributes not to be found in the monkey's mind, even in the slightest degree. The brain of the man and that of the monkey resemble each other, but their minds are entirely different.

2:4.3 There is every evidence that mind uses certain portions of the brain as a sort of library.

In the department of speech, the volumes of word-memory and word-speech are not only arranged in an orderly manner on the shelves, as it were,

but facts and experiments go to show that

on each shelf of this wonderful library the nouns and verbs are placed first,

the pronouns next,

then come the adjectives and prepositions,

SOURCE

and the nouns last (T 98).

VI: THE FACULTY OF SPEECH—
CONTINUED (Thomson 106)

With the great majority of persons the speech centers are located exclusively in the left hemisphere. It is a part of the left superior temporal convolution which hears words;

it is a part of the left angular gyrus which sees words;

it is the left Broca's convolution which utters words (T 107).

Most persons conceive of education vaguely as only mental, a training of the mind as such,

with small thought that it involves physical changes in the brain itself ere it can become real and permanent (T 123).

IX: PRACTICAL APPLICATIONS
(Thomson 242)

2: THE PHYSIOLOGY OF FAITH AND FEAR

while the adverbs are last in order.

2:4.4 We have three distinct word-centres—

one for hearing words,

one for seeing words,

and another for speaking words.

As we shall see more fully later,

education is not merely a process of mental training,

it includes actual physical changes in the brain itself.

All thought—all mental training—results in definite brain changes and the establishment of nerve habits which actually and literally render the man different from what he was before, and through the modification and transformation of the mental powers, the personality is ultimately influenced.

And so we here come into contact with that wonderful and mysterious force which dominates even the intellect of man—

SOURCE

[I]n thus making an instrument for the mind to use, the Will is higher than the Mind, and hence ... its rightful prerogative is to govern and direct the mind, just as it is the prerogative of the mind to govern and direct the body (T 253-54).

We have already demonstrated the mighty work of the will in dealing with brain matter as the potter does with clay, and that it is the will alone that has that power (T 253).

2: THE PHYSIOLOGY OF FAITH AND FEAR

that force or influence which we call will.

It is the will which has power to direct the channels of thought; and thought actually changes and modifies the physical brain;

and the modification of brain substance and nerve impulse literally changes our habits; and change of habit means a change of character; and character changed signifies a modification of personality. But more about the will later.

THE IMPRESS OF MIND UPON MATTER

VIII: THE MIND AND BODY (Olston 127)

Professor James says:

“The fact is that there is no sort of consciousness whatever, be it sensation, feeling, or idea, which does not directly and of itself tend to discharge into some *motor effect*.

The motor effect need not always be an outer stroke of behavior.

It may be only an alteration of the heartbeats or breathing, or a modification in the distribution of blood, such as blushing, or turning pale; or what not.

2:5.1 Professor James says:

“The fact is that there is no sort of consciousness whatever, be it sensation, feeling, or idea, which does not directly and of itself tend to discharge into some motor effect.

The motor effect need not always be an outward stroke of behavior.

It may be only an alteration of the heart beats or breathing, or a modification in the distribution of blood, such as blushing, or turning pale, or what not.

SOURCE

But, in any case, it is there in some shape when any consciousness is there;

and a belief, as fundamental as any in modern psychology, is the belief at last attained, that conscious processes of any sort, conscious processes merely as such, must pass over into motion open or concealed” (O 132).

If every mental process, as James says, passes over into bodily action of some kind;

and as one physiologist in the following paragraph has said,

that each active cell is connected with a nerve, then the point in hand becomes one of the highest importance.

In fact it is here that we will arrive at the basis of “suggestive therapeutics” and the maintenance of the general health.

The theory is as follows:

“Nearly every cell in the body (except the epidermis and blood) is probably in connection with a sensory nerve, and, through it, is in touch with the central nerve cells” (O 151).

[contd] The cells are constantly sending impulses to the central nerve cells or to the brain, telling of their needs, such as of food or of rest.

These common sensations of hunger, thirst, and fatigue are usually disposed of as the instincts;

yet they are intelligences sent by the individual cells to the lower centres or to the objective consciousness.

2: THE PHYSIOLOGY OF FAITH AND FEAR

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and a belief, as fundamental as any in modern psychology, is the belief at last attained, that conscious processes of any sort, conscious processes merely as such, must pass over into motion open or concealed.”

2:5.2 If every mental process, as James says, passes over into bodily action of some kind;

and as one physiologist has said,

that “each active cell is connected with a nerve,” then this point becomes one of the highest importance.

Herein lies the true basis of suggestive therapeutics.

The theory is as follows:

2:5.3 “Nearly every cell in the body (except the epidermis and blood corpuscles) is supposedly connected with a sensory nerve, and, through it, is in touch with the central nerve cells.

The cells are constantly sending impulses to the central nerve cells or to the brain, telling of their needs, such as of food or of rest.

These common sensations of hunger, thirst, and fatigue are usually disposed of as the instincts;

yet they are intelligences sent by the individual cells to the lower centres or to the higher consciousness.

SOURCE

While thirst seems to be located in the mouth, it is not from there that the pressing call comes, but from the cells of the whole body.

So it is with hunger.

If the cells throughout the body could be nourished, the feeling of hunger would leave the stomach.

There may be a feeling of hunger all the time,—as in the case of persons suffering from indigestion,—and yet the stomach be well supplied with food (O 151).

Regarding the sympathetic nervous system, Mosso says:

“We are sometimes surprised by a sad or joyous piece of news.

We all know what happens in a state of fear and distress.

Physiological phenomena occur that cannot be described.

But when we learn suddenly that the news which has troubled us is false, that our fear and distress had no foundation,

the internal disturbance does not cease, the physiological phenomena continue in the organism in spite of all efforts of the will to suppress them...” (O 163).

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the internal disturbance does not cease, the physiological phenomena continue in the organism in spite of all efforts of the will to suppress them.”

SUMMARY OF THE CHAPTER

2:6.1 1. The ancients variously located the mind in the liver, kidneys, bowels, and other organs. It is in the brain that mind and matter meet. While the brain is regarded as the seat of intellect, the scope of the mind is by no means limited to this single physical organ.

2:6.2 2. The brain does not secrete thought as the liver secretes bile. While both sides or hemispheres of the brain are concerned in motor activities, only one side—the left side in right-handed people—participates in the intellectual processes.

2:6.3 3. The brain does not think, it is merely the instrument of thought. The brain sustains the same relation to the mind that a musical instrument does to the musician.

2:6.4 4. Two brains—as the brain of man and monkey—may possess physical resemblance, while their respective presiding minds are wholly unlike or diametrically opposite. Two harps may be identical, while their players in no wise resemble each other.

2:6.5 5. The brain systematically stores its knowledge. In the word-memory centres, the elements of language are filed away in the following order: first nouns, then verbs, pronouns, adjectives, prepositions, and adverbs.

2:6.6 6. Mind never fails to impress itself upon matter. For every mental process there never fails to follow some physical response. Every thought of mind, every process of consciousness, is unfailingly translated into some form of material movement. This physical response to mental stimuli may be either conscious or unconscious, observed or unobserved, but none the less real.

SOURCE

2: THE PHYSIOLOGY OF FAITH AND FEAR

2:6.7 7. The mind is not always able to stop or control the physiological phenomena which it may be able to initiate. Fear is able to set in operation many physical reactions which soon pass beyond the regulatory power of the mind.

1. It is evident, therefore, that the chief reasons why we have pair organs is, first, for convenience, due to the body itself being generally two-sided, right and left; and, secondly, to insure against emergencies, just as a man will provide himself with two keys for the same lock, lest he lose one (T 61).