

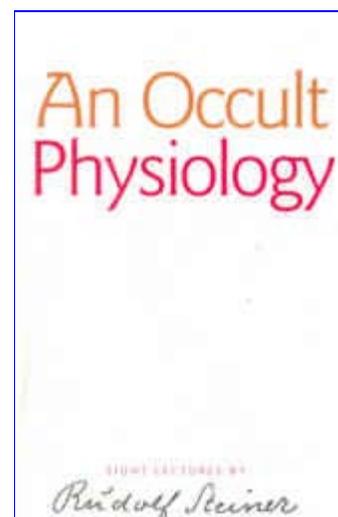
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A READER'S JOURNAL

An Occult Physiology, GA# 128 by Rudolf Steiner

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A Book Review by Bobby Matherne ©2005



This series of lectures are like a jigsaw puzzle in that they form a complete whole, a picture of the human physiology from a

spiritual science perspective, and any attempt which offers only a few pieces of the puzzle is doomed to fail. All the pieces must be observed in place and only then can an image of the whole be obtained. And yet, this is a most daunting book to read and to come to terms with, so any attempt to help a reader make sense of the thicket of fluid concepts which fill this work would likely prove helpful. This is the goal of my review of this book: to share with you, dear Reader, my partial understandings (and perhaps inadvertently my confusion arrived at during my study of the book) with the hope that together we make some sense out of its wealth of information. Consider attacking this book as you might a graduate seminar in a subject. Extensive background in the subject (in this case, Rudolf Steiner's works) will be a prerequisite for understanding, and most importantly remember this: the knowledge you bring to your reading of this book and this review will be essential to mastering the material of both the book and the review.

Why bother with a material so rich in concepts about what a human being is? Steiner tells us why on page 10, "to remain unknowing is to sin against Divine Destiny!" He said elsewhere in several places that a "sin is a good out of its time." It is good for us to reach an understanding of the human being as soon as possible and to avoid the possibility for such learning thus defers that good to some other time and becomes a sin.

What is an occult physiology? For an elaboration of the term, let us turn to Steiner's own words.

[page 11, 12] In the external sense the teaching about life is called physiology. This teaching should not here be regarded in the same way as in external science but as it presents itself to the *spiritual eye*; so that we may look beyond the forms of the outer man, beyond the form and functions of his physical organs, of the life-forms and life processes. And as it is not our intention here to pursue this "occult physiology," in any amateurish way, it will be necessary to refer with complete candor to things which will sound rather improbable at first to anyone who is unfamiliar with these ideas. At the same time, it may be stated that this cycle of lectures, even more than some others I have delivered, forms a *whole*, and that no single part of any one lecture, especially the earlier ones — for much that is to find expression in the course of this cycle will have to be affirmed without restraint — should be torn from its context and judged separately. On the contrary, only after having heard the concluding lectures will it be possible to form a

judgment with regard to what really has been said. For this reason, therefore, it will be necessary to proceed in a somewhat different way, in this occult physiology, from that of external physiology. The foundations for our introductory statements will be confirmed by what meets us at the conclusion. We shall not be called upon to draw a straight line, as it were, from the beginning to the end; but we shall proceed in a circle so that we shall return again, at the end, to the point from which we started.

Steiner describes the human body, but in a way dramatically different from how a lecturer in physiology in a modern medical school would. We will learn about how various systems of forces operate in the body. How food is modified as it enters the digestive system and continues to be modified by organ after organ until it can smoothly enter as nutrition into various sections of the body. The organs of the human will not be treated as objects, but rather as living components of systems. For example, while the organs of the human body may resemble those of animals when externally treated as an object, their functions may be dramatically different.

[page 14] For the moment we enter into the profounder depths of the individual organs, we become aware (and we shall see in the course of these lectures that this is true) that any one of these organs, through its deeper significance in the case of man, may have an entirely different task from that of the corresponding organ in the animal world. . . . [For example,] the fact that the animals closely related to man also have a spinal cord and a brain does not prove that these organs, in their deeper significance, have the same task in both man and animal . . .

Steiner offers insights into the interaction between the internal organ systems of the human body which may seem far-fetched generalizations to reductionist physiologists, but if they take the trouble to come to terms with Steiner's concepts, they will be able to form better, more complete understandings of the interactions of the systems of human organs as well as their forces and functions.

First, let us look at the famous example of how Goethe came to understand the skull enclosing our brain as a metamorphosis of the upper vertebra of the spinal cord, and the brain as a distended or blooming upper reach of the spinal cord.

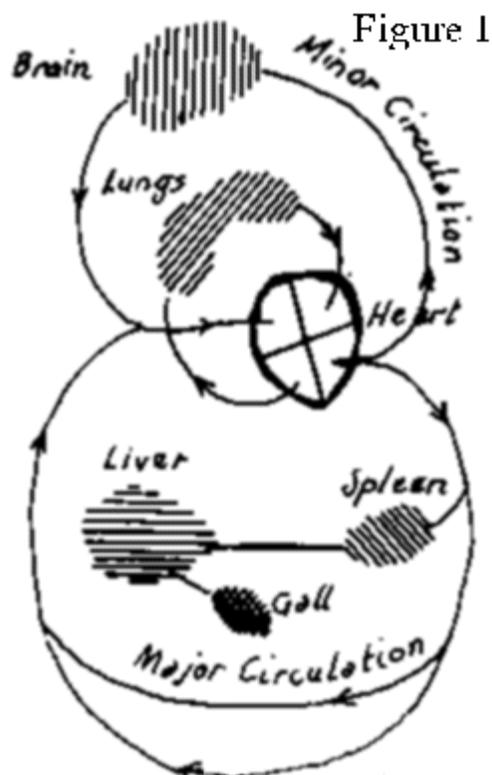
[page 15, 16] Goethe, for example, was impressed very early in his reflections by the fact that when one imagines a single vertebra of the spinal column transformed, leveled and distended there may appear through such a reshaping of the vertebrae the bones of the head, the skull-bones; thus, if one should take a single vertebra and distend it on all sides so that it has elevations here and there, and at the same time is smooth and uniform in its expansions, the form of the skull might in this way be gradually derived from a single vertebra. Thus we may in a certain respect call the skull-bones reshaped vertebrae.

Now, just as we can look upon the skull-bones which enclose the brain as transformed vertebrae, as the transformation of such bones as enclose the spinal cord, so we may also think of the mass of the spinal cord distended in a different way, differentiated, more complex, till we obtain out of the spinal cord, so to speak, through this alteration, the brain. We might likewise, for instance, think how out of a plant, which at first has only green foliage, there grows forth the blossom. And so we might imagine that through the reshaping of a spinal cord, through its elevation to higher stages, the entire brain could be formed. (Later on, it will become clear how this matter is to be considered scientifically.) We may accordingly imagine our brain as a differentiated spinal cord.

In the spinal cord and brain system we find the organs surrounded by bony structures while the other portion of the body has the bones encased inside it. Steiner says that would be a superficial observation.

[page 28] We shall be carried deeper into the construction of this other portion of man's

nature if, for the moment, we keep the most important systems of organs apart from one another . . .



Consider Figure 1, a diagram from page 32 of this book, which shows two circulation loops from the heart. The atria are the upper chambers of the heart and the ventricles, the lower chambers. The heart receives blue blood (depleted of oxygen/nutrients) into the right atrium and the lungs takes blood from the right ventricle, enriches it with oxygen/nutrients, and pours the oxygen-rich red blood into the left atrium. From there it flows into the left ventricle and out in two streams to the brain and to the rest of the body. Examine the diagram and familiarize yourself for a moment with the flows. Understanding the minor and major circulation of the blood is essential for grasping Steiner's occult physiology. In the upper (minor) circulation we have organs such as the lung and brain (nervous system) and in the lower the organs of the spleen, liver, and gall bladder.

[page 32, 33] Now arises the question: Can we already draw some sort of conclusion, from an external aspect, as to just how these organs take part in the joint activity of the human organism? Let us first fix our attention on this one external fact, namely, that these organs are inserted into the lower circulatory course of the blood in the same way in which the brain is inserted into the upper course; and let us now see for a moment, while first actually holding to this external method of study, which must later be deepened, whether it is possible that these organs really have a task similar to that of the brain. At the same time, wherein may such a task consist?

Let us begin by considering the upper portions of the human organism. It is these that receive the sense-impressions through the organs of sense, and work over the material contained in our sense-perceptions. We may say, therefore, that what takes place in the human head, in the upper part of the organism, is a working over of those impressions which flow in from outside through the sense-organs; and that what we may describe as the cause of everything that takes place in these upper parts is to be found in its essence in the external impressions or imprints. And, since these external impressions send their influences, together with what results from these influences in the working

over of the outer impressions, into the upper organs of the organism, they therefore change the blood, or contribute to its change, and in their own way send this blood back to the heart transformed, just as the blood is sent back to the heart transformed from the rest of the organism.

This transforming of the blood is like the external world and the internal world writing upon a tablet. The external world reaches the blood via the sensory apparatus of the nervous system via the brain in the upper loop; the internal world reaches the blood from the organs of the spleen, liver, and gall bladder in the lower loop. By means of the blood the external world of the macrocosm communicates with the internal world of the microcosm. This two-way communication is what the translator uses the word "correspondence" to indicate in the passage below.

[page 33, 34] Is it not obvious that we should now ask ourselves this other question: Since this upper part of the human organism opens outward by means of the sense-organs, opens doors to the outside world in the form of sense-organs, is there not a certain sort of correspondence between the working-in of the external world through these sense-organs upon the upper part of the human organism and that which works out of the three interior organs, the spleen, the liver, and the gallbladder? Whereas, accordingly, the upper part of the organism opens outward in order to receive the influences of the outside world; and whereas the blood flows upwards, so to speak, in order to capture these impressions of the outside world, it flows downwards in order to take up what comes from these three organs. Thus we may say that, when we look out upon the world round about us, this world exercises its influence through our senses upon our upper organization. And what thus flows in from outside, through the world of sense, we may think of as pressed together, contracted, as if into one center; so that what flows into our organism from all sides is seen to be the same thing as that which flows out from the liver, the gall-bladder, and the spleen, namely, transformed outside world. If you go further into this matter you will see that it is not such a very strange reflection.

Imagine to yourselves the different sense-impressions that stream into us; imagine these contracted, thickened or condensed, formed into organs and placed inside us. Thus the blood presents itself inwardly to the liver, gallbladder and spleen, in the same way as the upper part of the human organism presents itself to the outside world. And so we have the outside world which surrounds our sense-organs above, condensed as it were into organs that are placed in the interior of man, so that we may say: At one moment the world is working from outside, streaming into us, coming into contact with our blood in the upper organs, acting upon our blood; and the next moment that which is in the macrocosm works mysteriously in those organs into which it has first contracted itself, and there, from the opposite direction, acts upon our blood, presenting itself again in the same way as it does in the upper organs.

Suddenly it is no longer mysterious how the internal organs of our body are formed out of the cosmos around us [\(1\)](#). And it would not seem at all strange if we were to find that the age-old correlations of our body's organs to the planets of our cosmos exactly matched each other. The organs of the minor circulation, the lung and brain are related to the inner planets of our cosmos, namely those inside the orbit of the Earth, Mercury and Venus (brain, lungs, kidneys). The organs of the major circulation, the spleen (Saturn), liver (Jupiter), and gall bladder (Mars) are related to the outer planets, those whose orbits are outside the orbit of Earth. The heart which lies in the center of the two circulations is related to the Sun which is the center of our Solar System or cosmos. My use of "related to" refers to an ancient tradition of thousands of years and Steiner reveals to us the deep meaning of that tradition in our human physiology.

[page 36] For this reason they called the spleen "saturnine," or an *inner Saturn* in man; and, similarly, the liver they called an *inner Jupiter*; and the gall-bladder, an *inner Mars*. Let us begin by thinking of nothing in connection with these names, except that we have

chosen them because we have arrived at the concept, at first hypothetical, that the external worlds, which otherwise are accessible rather to our senses, have been contracted into these organs and that in these organs *inner* worlds, so to speak, come to meet us, just as outer worlds meet us in the planets. We may now be able to say that, just as the external worlds show themselves as acting upon the blood-system in that they influence that for which the blood-system is there.

These inner worlds of our organs in the major circulatory (outer planets) loop are unconscious to us while we reach consciousness by virtue of the minor circulatory loop (inner planets) of our brain and nervous system. Thus it comes about that:

[page 37] . . . man, to begin with, knows nothing about what takes place within his lower organism: that is, he knows nothing about the impressions which the inner worlds, or planets, as we may call them, make upon him, whereas the very characteristic of the other experience is that the outer worlds do make their impressions upon his consciousness. In a certain respect, therefore, we may call these inner worlds the realm of the unconscious, in contrast to the conscious realm we have learned to know in the life of the brain.

This reality shows when we say, for example, if we have some upset in our abdominal regions, "I don't know what's wrong with me." The only communication we get is that something unusual is going on — no message comes to consciousness about exactly what the problem is.

Plants are the lowest form of life and they contain an etheric body which organizes the minerals into growing structures, etc, but they have no form of sentience or consciousness of their surroundings. Only in the animal kingdom do we find the lowest form of sentience as a result of the astral body animals possess. Plants have no nerve-system, and Steiner says this reveals that the nerve-system is the tool or instrument of the astral body which serves as "the spiritual prototype of the nerve-system." This leads us to highest body of humankind during the Earth Epoch, the Ego Body or I and its tool or instrument, the blood system.

[page 39] At this point we shall merely affirm in advance what will appear later as having a still more profound basis, that, in the case of man, we must designate the blood as an external instrument for the Ego, for all that we denote as our innermost soul-center, the Ego; so that in the nerve-system we have an external instrument of the astral body, and in our blood an external instrument of the Ego. Just as the nerve-system in our organism enters into certain relations with the blood, so do those inner soul faculties which we experience in ourselves as our representations, feelings or sensations, etc., enter into a certain relation with our Ego.

Imagine the nerve-activity of our body as if it were a read-write head on a tape recorder. When it touches the blood-system it can write its information in the blood system for the organ system to read, and it can read the information left by the organ system. But a human being can by a force of will developed during spiritual training lift the read-write head in effect.

[page 44, 45] It then happens, as the particular consequence of this, that whereas the nerve-system had previously written its action upon the tablet of the blood, it now permits what it contains within itself as a working force to return into itself, and does not permit it to reach the blood. It is, therefore, possible purely through processes of inner concentration, to separate the blood-system from the nerve-system, and thereby to cause that which, pictorially expressed, would otherwise have flowed into the ego, to course back again into the nerve-system.

We must completely free our nerve-system from the blood system to have true spiritual sight. But there is another nerve-system which operates between the blood system in the main circulatory (lower) loop.

Steiner deduces the existence of this intermediary system of nerves between the main circulatory loop and the inner organs of our body it serves — it is called the sympathetic nervous system.

[page 54, 55] Thus we see, by simply comparing the lower portion of the human being with the upper, that we are forced to presuppose that something in the nature of a nerve-system must be inserted between the circulating blood and our inner organs — among which we have here these three representative ones, the liver, the gall-bladder, and the spleen.

External observation shows us that this really is the case, that in all these organs is inserted what is called the "sympathetic nervous system" which extends throughout the bodily cavity of man, and which stands in a relationship to his inner world and to the course of the blood similar to that in which the nervous system of the spinal cord stands to the great outside world and to the life of man, to the circulation of his blood. This sympathetic nervous system passes first along the spine and, going out from there, traverses the most widely separated parts of the organism and branches out, spreading into reticular forms, especially in the abdominal cavity, where one part of it goes by the popular name of the "solar plexus."

If we lift the read-write head of the nerve-system from the blood and re-connect the read-write head of the sympathetic nervous system to the blood, we are doing as mystics throughout the ages have done. Now we are in a position to understand why Steiner has told us that mystics with all their reports of visions are seeing their bodily organs(2).

[page 58] Whereas, therefore, we loosen by means of the process described yesterday the connection between the nerve and the blood, we here strengthen the connection between the blood and the sympathetic nerve-system by means of true mystic immersion.

This is the physiological counterpart: that the blood is here pressed in more than ever against the sympathetic nerve-system; whereas, when the wish is to reach the spiritual world in the other way, the blood is pushed away from the nerve. Thus we see that what can take place in the mystic immersion is primarily an impressing of the blood upon this inner, sympathetic nerve-system.

This process of mystic vision is *not* the one that Steiner is recommending as a way of viewing the spiritual world, because it proceeds in the opposite direction, into our inner world of bodily organs. But it helps us to understand how the spiritual information from ancient times about our internal organs was derived from such spiritual sight.

[page 61] The position is entirely different, however, when a man can see clairvoyantly *inside* himself by means of the sympathetic nervous system. He does not in that case see at all the same things that one sees when looking from the outside; rather, he now sees something which caused seers throughout the ages to choose such strange names as I cited in the second lecture. . . . He now gradually realizes why the seers of all times connected the activity of the spleen with the action of Saturn, the liver with the action of Jupiter, and the activity of the gall-bladder with the action of Mars. For what he sees in his own inner self is, indeed, fundamentally different from what presents itself to the external view. He becomes aware that he actually has before him portions of the outside world enclosed within the boundaries of his inner organs.

In other words, he is directly experiencing the macrocosm in the microcosm — the reality of the dictum "As above, so below." Take the actions of the spleen in its milieu — how does it relate in any fashion to the actions of Saturn in its milieu? That is the correct way to ask the question if you are to reach a valid answer when you are searching correlations between the microcosm and the macrocosm. One cannot be too literal, e.g., saying, "The spleen does not look like Saturn." Instead one must correlate the actions of

the two being compared with the systems they comprise at each's level.

The spleen is a nutritional impedance matcher, a shock-absorber, if you will, which operates between the nourishment one receives in irregular doses and the regularity of the rhythm of the blood system. Thus it comes about that one of the few changes that can be observed physically in the spleen is that it expands after the taking of a heavy meal. It is like an automobile shock absorber that has extended itself because the wheel it supports has entered a chuckhole. The automobile is spared the shock of the deep hole because the shock absorber was there. Exactly as the shock absorber isolates the automobile from the outside world, the spleen does with the nourishment we receive from the outside world. Exactly as our automobile must be able to survive traveling over a chuckhole, our body must be able to survive the nourishment we receive from the outside world and the spleen is our body's nutritional shock-absorber.

For its part Saturn acts to isolate our local solar-system cosmos from the rest of the universe.

[page 67] For this reason occultists of all ages have seen in the Saturn forces that which secludes our solar system within itself, thus making it possible for the solar system to develop a rhythm of its own which is not the same as the rhythm outside the world of our solar system.

Look at the Main Circulatory loop and you find that the spleen is the first organ which receives the body's nutrition on its way from the digestive system to the blood system. "The forces that are in the spleen isolate the circulation of our blood from all outside influences, and make of it a regular rhythm within itself, a system having its own rhythm." (Page 68) A system thus isolated is said to have a saturnine nature and this nature dooms it to destroy itself.

[page 69] To put it in other words, everything that has made itself independent as a result of a saturnine activity is doomed at the same time, because of this saturnine activity, to destroy itself again. Saturn, or Kronos, devours his own children, so the myth tells us. Here you see a deeply significant harmony between an occult idea, expressed in the name *Kronos* or *Saturn*, a myth which expresses the same thing in a picture, a symbol: "Kronos devours his own children!"

At one point while reading this book, I penned a subtitle for it: "A Study of Myths and Sagas." This subtitle will not make sense until one has reached at least this portion of the book. Someone once said if one person calls you a "horse's rear" you can ignore it, but if three or more people call you that, you should buy a saddle. When evidence mounts and mounts, especially evidence from multiple sources and directions, one maintains a view to the contrary only at one's own peril. With the connections Steiner has already made between mystics, myths, astrology, and physiology it's difficult for anyone to say plausibly:

[page 69, 70] "Here are some of these visionaries dreaming that the old myths and sagas contained the pictorial impress of a deeper wisdom!" If a man hears two or three, or let us say even ten, such "correspondences" presented, as these so often are presented in literature in a wholly superficial way, it is of course quite possible for him to oppose the idea that there is a deeper wisdom contained in the myths and sagas than in external science; that mythology leads us deeper into the foundations of things and of Being than do the methods of natural scientific study. But if he allows such examples to work upon him again and again, and then becomes aware that, throughout the whole extent of the thought and feeling of men and of peoples, it is verified that in pictorial conceptions everywhere and always, over all parts of the earth, anyone with a very accurate observation and devoted interest in sagas and myths may find the metamorphoses of a deeper wisdom, then he will be able to understand why certain occultists can with justice say as they do: "He alone really comprehends the myths and sagas who has penetrated into human nature with the help of occult physiology." And, indeed, more truly than is the case in external science, do even the names in these myths and sagas and other

traditions contain real physiology.

A present-day scientist may scoff at such a claim, but Steiner says that anyone who bothers will generally find the following to be true:

[page 75, 76] When anyone approaches what is given out through spiritual science with a certain sort of knowledge gathered from all that belongs to present-day science, contradiction after contradiction may result till finally one can get no further. And, if a man is quick to form opinions, he will certainly not be able to reach any other conclusion than that spiritual science is a sort of madness which does not harmonize in the slightest degree with the results obtained by external science. If, however, a man follows these things with patience, he will see that there is no contradiction, not even of the most minute kind, between what comes forth from spiritual science and what may be presented by external science. The difficulty before us is this, that the field of anthroposophical or spiritual science as a whole is so extensive that it is never possible to present more than a part of it. When people approach such parts they may feel discrepancies such as that which we have described; yet it would be impossible to begin in any other way than this with the much needed bringing of the anthroposophical world-conception into the culture and knowledge of our day.

The above passage explains clearly why I devote the time and attention I do to Steiner's writings and why I put some much effort into these reviews of his work. I have seen no contradictions between Steiner's spiritual science and the present-day science I studied in my college and post-graduate studies. Whenever I have come upon an apparent discrepancy, further study has revealed that it was an error, an assumption of my own that was the cause of the discrepancy not any lacking in Steiner's works.

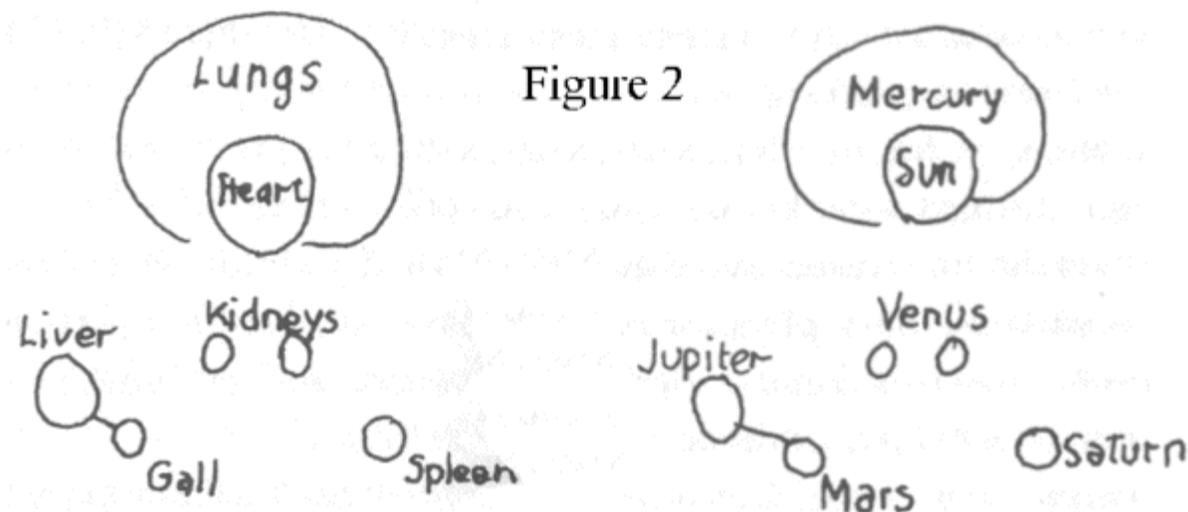
This next passage gave a laugh. In it Steiner says the foods we eat are not bricks. That is exactly to the point — he highlights the attitude of present-day scientists who treat food as if it were not living things, but just "building blocks" or bricks for our body. If that were the case we could build a human being just by stacking these blocks one on top the other.

[page 77, 78] Articles of food are, after all not just bricks which serve in some way as building material for the constructions they are to help in erecting. . . . This is not true, however, of the nutritive matter in its relation to the human being. For every particle of substance we have in our environment has certain inner forces, its own conformity to law. This is the essential element in any substance that it has its own activities. . . . Thus, if the human organism wishes to use these substances for its own purposes it must first destroy their rhythmic life, as it were, that vital activity which is peculiarly their own.

Bricks are not alive, they have no vital activity; food is not bricks. Plus, the human being needs air in addition to food to complete its nutritive requirements, and it is in the heart that the two join each other. Do they join harmoniously? The air is pressed into the outside macrocosm and the food nutrition is pressed into the human being from its inner microcosm, but they do not meet in exact harmony, Steiner tells us.

[page 83] No, it is not like that . . . a residue always remains for his own inner activity; and that it is left ultimately to man himself to bring about balance, the inner equilibrium, right into his very organs.

Not surprising, the one set of internal organs that we have yet to discuss, the kidneys, are responsible for the harmonization of the two systems of lung-heart and spleen-liver-gall. The kidneys fill out the remaining inner planet of our microcosm, namely Venus. See Figure 2. which shows the kidneys in its intermediary role between the two systems in the microcosm and compare to the arrangement of planets in the macrocosm.



[page 85] In the following lectures I shall have occasion to show you that the occultists have actual reasons for conceiving the relationship of the sun to Mercury and Venus as being similar to that which we must necessarily think of as existing between the heart and lungs and kidneys respectively, within the human organism.

In this next passage Steiner explains how two ether-currents, one from above, one from below come together in opposition whenever a memory-picture wishes to form itself. (Page 94) The two currents exist in the non-material world, but one can find physical organs which correspond exactly to the location expected by spiritual investigators. One of the organs, the pineal gland, has been called for ages, "the third eye," long before materialist physiologists began cutting up dead human bodies and labeling their parts and studying their functions.

[page 95] Such supersensible currents in the human organism always express themselves by creating for themselves also a physical material-organ, which we must first regard as a materialization. Thus we have within us an organ, situated in the mid brain, which is the physical material-expression for that which wishes to take the form of a memory-picture; and opposite to this is situated still another organ in the brain. These two organs in the human brain are the physical-material expression of the two currents in the human ether-body; they are, one might say, something like the ultimate indication of the fact that there are such currents in the ether-body. These currents condense themselves with such force that they seize the human bodily substance and consolidate it into these organs. We thus actually get an impression of bright etheric light-currents streaming across from the one to the other of these organs, and pouring themselves out over the human ether-body. These organs are actually present in the human organism. One of them is the *pineal gland*; the other, the so-called *pituitary body*: the "epiphysis" and the "hypophysis" respectively. We have here, at a definite point in the human physical organism, the external physical expression of the co-operation of soul and body!

If we think about a man sitting at a computer performing tasks on it and we systematically *think away* each component of the man-computer system, we would first remove the man and no new tasks get performed. Second we would remove the operating system and the possibility for running tasks at all is eliminated. The computer's power light is on and every hardware aspect of it is working, but nothing happens nor can happen. The computer has, in effect, become a night light. Third we turn the power off and the computer dies. It becomes a dead piece of hardware. It is impossible at this point to distinguish it from a broken computer, and it is in the condition that computer technicians inelegantly call a "boat anchor." Using the computer as metaphor for the human body, the human operator is the Ego, the operating system is the astral body, the power is the etheric body, and the computer hardware the physical body. The operating system cannot exist in the computer until and unless the hardware is available and its power is applied.

Likewise the astral body presupposes both the physical and etheric bodies. The human operator of the computer passes down instructions into the operating system, which radiates into electrical currents in the power system and the hardware supporting it.

In this next passage, Steiner begins systematically thinking away the parts of the human body starting with the physical body and moving up to the Ego:

[page 101] If accordingly we first think away the physical organ and conceive the physical matter as cut out we have, first, the etheric system of forces and next the astral system of forces, which in turn permeates the etheric system of forces in a perfectly definite manner. Indeed we may also conceive of radiations passing down into these from the ego.

The computer hardware has a system of forces which influence the upper three levels of its operation: the hardware includes the power supply and the circuit boards which carry the power and signal currents. The power and signal currents provide the basis for loading an operating system into the hardware. The operating system once loaded makes it possible for the human operator to run tasks and do work. Similarly constructed is the human body.

[page 102, 103] Thus the physical body is also a system of forces; so that we may also imagine cases in which this physical organism with its system of forces works back upon the etheric, or even upon the astral system of forces, indeed even as far back as the ego-system.

We can even think of the computer fans and heat-sinks and its peripherals as *organs of secretion and excretion* of the computer system just as the human body has its own glandular organs or secretory and excretory organs in general. (Page 103) So let us see how Steiner answers his own question, "What is the significance of the excretory process in the human being?" (Page 105) Curiously, the key lies in obstacles and what happens when we bump into them.

[page 106] Think for a moment, how is it really possible after all to affirm that there is such a thing as the becoming aware of one's Self? If you move incautiously in a room and stumble against some external object you say that you have run into something. This impact is actually a becoming aware of your own Self in such a way, that the collision has in reality become for you an inner occurrence. For what is the collision with a foreign object so far as it affects you? It is the cause of a hurt, a pain. The process of feeling pain takes place entirely within yourself. Thus an inner process is called forth by the fact that you come into contact with a foreign object, and that this constitutes a hindrance in your way. It is the becoming aware of this hindrance that calls forth the inner process which, in the moment of collision, makes itself known as pain.

From the resistance we experience within us when we encounter a hindrance our own inner consciousness of Self arises.

[page 107] From this you can see that man becomes aware of his inner Being in the *sensing of resistance*. This is the concept we must have: of becoming aware, of the consciousness of inner life, of being filled with real inner experiences through the sensing of a resistance. This is the concept which I have here developed in order to be able to make the transition to another concept, that of the excretions in the human organism. . . . The stream of physical matter as a whole, when it comes into an organ, runs against a resistance as it were; it cannot remain as it is, it must change itself. It is told by the organ, as we might say: "You cannot remain as You are; you must transform yourself." Let us suppose that such a substance goes into the liver. There it is told, "You must change yourself." A resistance is set up against it. For further us it must become a different substance, and it must cast off certain portions.

The organs of the body feel a hindrance from the materials taken in from the outside world and their excreting of the unwanted parts is their way of removing the hindrance experienced.

[page 108] Let us suppose that the human organism takes into itself in some way or other, into one of its organ-systems, a certain kind of physical substance, and that this organ system is so regulated that through its own activity it eliminates something from the substance taken in, separates it from the substance as a whole, so that through the activity of this organ the original complete substance falls apart into a finer, filtered portion and a coarser portion, which is excreted.

And from this process of secreting away unwanted portions, a human being is able to be secluded within itself, to be an independent human being. Have you ever experienced a man for whom all the words one spoke to him "went in one ear and out the other"? My mother often accused us of that when we were boys. She made it sound like it was a horrible thing to do. Like we were just acting like a hose through which water flowed unimpeded. Like we were not real human beings unless we took in and offered some resistance to the words which were spoken to us. It is this common sense way of understanding individuality that Steiner is speaking of here — something anyone can understand.

[page 112] When we have a machine which is to be used for some intelligent activity, some activity that has a purpose, we have to do in the first place with the machine and this purposeful activity. In order, however, that the machine may come into existence, it is necessary that similar activities be carried out, which assemble the parts of the machine and give form to the whole. These activities must be similar to those which are later carried on by means of the machine itself. We must say, therefore, that when we observe a machine it is wholly and absolutely explicable on mechanical principles; but the fact that the machine is adapted to its purpose requires us to suppose that it came into existence through the activity of a mind which had thought out that purpose beforehand. This spiritual activity has withdrawn, to be sure, and does not need to be brought forward when we wish to explain the machine scientifically; yet it is there, *behind* the machine, and first produced it.

Steiner disdains those who would say we can explain the physical world through its own laws, saying that's where the "worst kind of errors appear." (Page 113)

[page 113] The human organism is, indeed, absolutely and entirely explainable out of its own laws, just as is the watch. Yet it does not follow from the fact that the watch can be explained by means of its own laws that the inventor was not behind the watch.

Just as we would look for the form-creative beings who designed the watch, we need to seek the form-creative beings behind the form of the human being. This is what Steiner does in detail in his spiritual science or anthroposophy — he fills out the spiritual design aspects which the anthropologists, the biologists, and the physiologists leave out by focusing only on the material design aspects.

Two spiritual design aspects Steiner focuses our attention upon are the way the nervous system carries signals from the brain to the blood and the way the sympathetic nervous system blocks the signals from the internal organs from reaching the blood. In this next passage Steiner gives us the how and the why of these two processes.

[page 116, 117] The nervous system of our brain and spinal cord is intended, in a normal state of consciousness, to convey external impressions to the blood, that is, to take the impressions in as physical processes in such a way that these processes beat against the blood, as it were, and in doing this inscribe themselves upon the instrument of the ego, the blood, so that the outer impressions are thereby transferred to it. And just as truly the branches of the sympathetic nervous system which, with its ganglions and

ramifications, stands guard over the inner cosmic system, are intended to keep the processes that go on in this inner cosmic system from approaching as far as the blood, to hold these processes back, so to speak. You have now heard something more in regard to what I have previously touched upon, namely, that the sympathetic nervous system has a function contrary to that of the nervous system of the brain and spinal cord. Whereas the latter must make the effort to convey external impressions to the blood in the best possible way, the sympathetic nervous system, with its opposite activity, must be continually holding back from the blood, from the instrument of the ego, the transformed vital activities of the substances that have been taken in. [RJM Note: this is the HOW] If we observe the digestive process, we have there, first, the taking in of external nutritive substances; then the holding back of the vital activities peculiar to these nutritive substances, and the transformation of these by means of the inner cosmic system of man. The vital activities of these substances, accordingly, are changed into other sorts of vital activities. In order that we need not, placed as we are in the world, continually perceive inwardly what goes on in our inner organs, this entire stream of processes must be held back from the blood by means of the sympathetic nervous system, whereas that other nervous system goes to meet what is taken in from outside. [RJM Note: this is the WHY]

When these two systems are operating harmoniously, we are not aware of their presence, and our process of nutrition goes on out of our awareness. But let something get out of kilter and something will leak through from one side or the other. From the internal organ side we may experience indigestion, for example, via a leak through the sympathetic nervous system. From the other side, the nervous system of the brain, we may experience some strong emotions which originate in our thoughts and bleed through and affect "the digestion, the respiratory system and also, consequently, the circulation of the blood and everything that lies below consciousness." (Page 119)

This next passage is a wonderful summary of human consciousness and we see clearly the hindrances that these two systems create within us and out of which human consciousness has evolved.

[page 119] It is thus possible for these two sides of human nature to act reciprocally upon each other. And we are obliged to state that, as human beings, we actually stand in the world as a duality: a duality in the first place which has, in the nervous system of the brain and the spinal cord, instruments that bring external impressions to the blood, the instrument of the ego. From this whole stream of soul-life is held back, by means of the sympathetic nervous system, everything in the way of inner realization of the life of the organs. These two streams confront each other all along the line, so to speak; but we find their special expression in those two organs of which we spoke at the close of yesterday's lecture. [RJM Note: The pineal gland and pituitary body]

In these lectures Steiner discusses the processes of excretion and secretion and now he helps us make a distinction between the two. In short, excretion is the process which carries substances outside of our body, such as the process of perspiration, and secretion is the process which transports substances internally between organs and tissues of our body completely internally.

In Lecture 6, Steiner leads us into a realization of the blood as a manifestation and instrument of the human Ego. We have already by this point in the lectures come to realize how our human consciousness evolves from the brain and nerve-system writing on the blood system and how our internal organ system's working remains unconscious as a result of the sympathetic nervous system. We are now ready to understand the intimate connection of the Ego with the blood.

[Page 123, 124] We have thus set forth in its essence the fact that even in the external organ of the skin are present both the blood-system, as the expression of the ego, and the nervous system as the expression of the consciousness. And now I wish little by little

to direct you to the fact that we have a right to bring together all phenomena of consciousness under the expression "astral body," that is, to conceive the nervous system comprehensively as an expression of the astral body; that we have what we may call the glandular system as an expression of the ether-body, or life-body; and the actual process of nutrition and depositing of substances as an expression of the physical body.

Humans are the only beings which have an Ego; animals do not. How is it possible that animals have blood also and yet do not possess an Ego? It is because human blood evolved with the human being as a system and neither the blood nor the human being can exist without the other. The one presupposes the other. Steiner develops this theme in great detail in Lecture 6, but one aspect of the difference between the blood in humans who possess an Ego and the blood in animals who do not possess an Ego is available for all to consider: animals cannot blush with shame nor can they pale with anxiety or fear. Clearly those conditions are an expression of the human Ego. The rushing of blood to the face is triggered by a thought, a type of thought that animals cannot have. Our skin, Steiner goes to great lengths to explain in this Lecture, is an instrument of the both the blood-system and the nervous system, and as such can express conditions both of the Ego and of the consciousness.

[page 128] With the feeling of fear or anxiety it is as if we wanted to guard ourselves, so to speak, against something which we believe will have an influence upon us: we draw back with our ego. With the feeling of shame we would best of all like to hide ourselves, to obliterate our ego. In both cases, referring only to the external facts, the blood, as an external physical instrument, follows physically what the ego lives through in itself. In the case of feelings of fear and anxiety, where a man would like to draw back into himself completely, from something which he feels to be threatening him, he becomes pale; the blood draws back to its center, draws inward. When a man would like to hide himself because of his sense of shame, would like to obliterate his ego, or best of all not to exist, or to slink away somewhere, the blood, under the influence of what the ego may here live through, spreads out as far as the periphery. And so you see from this that the blood is the most easily controllable system in man, and that it can follow in a definite way the experiences of the ego.

If in our blood we are the most alive, in our bones we the most dead. Our bones are like the dead scaffolding which supports live workers on a building, only our scaffolding exists inside of our human building. And yet there is an intimate relationship between the blood-bound Ego and the bones of our body, especially the shape of those in our skull. Most humans today cannot remember their previous incarnation, but every time they look into a mirror they are reminded of that previous incarnation by the shape of their skull and facial bones. Because of this many people have faces and skulls which seem supernally appropriate to them — the Ego has reincarnated into a body whose skull was shaped between its previous incarnation and this one as a result of the experiences of the Ego during its previous incarnation. The karmic debt which one has to work out from the previous incarnation is, in a sense, displayed in one's face and skull.

[page 139] Whereas our ego has no influence, therefore, over the skull-structure in our present incarnation, it has developed, during the intervening period between the last death and the last birth in accordance with the experiences of the preceding incarnation, the forces which determine the skull-structure; and it is these forces which determine the form of the skull in *this* incarnation. What the ego was in the preceding incarnation determines the form of the skull in *this* one; so that in the structure of our skull we have an external plastic expression of the way in which we, every single one of us, again however as individuals, have lived and acted in the preceding incarnation. Whereas all the other bones we have in us express something which is common to man, the skull in its external form expresses that which we were in an earlier incarnation.

In several books [\(3\)](#), Steiner talks about *brain sand* and its importance in the process of thinking. Technically, brain sand is found by the materialistic physiologist as calcareous deposits in the pineal gland, for example, and few scientists outside of Rudolf Steiner seem to be aware of its importance to the process of thinking. It is as though Steiner recognizes the importance of live frogs to an ecology but the other scientists only notice the frog bones left by dead frogs. Here is an accepted definition of brain sand (from [Fast Heath](#)): *n* : *small grains of calcareous matter in the brain (as in the pineal gland) that occur esp. in association with aging*. Steiner points to the live process of brain sand which builds up during thinking processes during the day and dissolves again during sleep, whereas the other scientists record only the accretions of brain sand that are visible in slides of dead tissue of some aged humans.

[page 146, 147] Now exactly the same process takes place within our organism when we think. This corresponding process of thinking is a salt-depositing process, so to speak, which is caused by a certain activity in our blood and which irritates and reacts upon our nerve-system, a process, that is, which goes on on the "frontiers" between our blood- and nerve-systems. And just as we can look at the water in the glass and observe the formation of the salt as it separates, and crystalizes, so we may see, when we observe a human being exercising thought, that just such a process, supersensibly perceptible in all its exactness to the clairvoyant eye, actually does take place. Thus we have here brought before our minds the physical correlative of the process of thought.

Note that in the following translation the salt deposits referred to is what Steiner in the two cited references (see [footnote](#)) called "brain sand."

[page 155, 156] For the salt that is here formed must again at once be dissolved by sleep, must be got rid of, for otherwise it would induce destructive processes, causing dissolution. Thus we have processes that begin with the deposition of salt and then are followed by destructive processes, constituting a sort of reactionary process. In the re-dissolving of the deposits, beneficent sleep acts upon us in the way we need, to the end that we may ever anew develop conscious thought in our fully awake life of day.

No account of physiology would be complete if the lymph vessels were not accounted for in their vital process. It is the lymph vessels which accrete or collect together the excretions from the body's tissue and then carries them away. And in the interactions of the lymph system with sympathetic nervous system, a dim form of consciousness is formed in present day humans.

[page 176] This dim consciousness is, as it were, the obverse side of that consciousness which utilizes the sympathetic nervous system as its instrument. It is outshone, as a powerful light outshines a feeble light, by all that lives in our souls under the influence of the ego.

In these lectures Steiner sets the stage for understanding how egohood or Ego [\(4\)](#) emerges in concert with all the systems of human physiology, especially the seven organs shown in Figure 2 above. Egohood comes about when one senses the outside world and simultaneously senses the resistance in one's inner world in the processes of secretion.

[page 178] And we have seen how the organ for the ego here fits itself into the circulatory course of the blood, which in fact passes through all these inner organs, in order to serve throughout the whole human organization as an instrument for the egohood. Just as the egohood permeates soul and spirit in the whole man, so does the circulatory course of the blood physically permeate his entire organization. And this organization thereby evolves these two sides, so to speak: the inner human being in the seven organs, the sympathetic nervous system, the system of tissues, and predominantly in the digestive apparatus, etc.; and the other side that again opens outward, coming into connection with the outer world, a real "circulation" in the highest sense of the word.

Steiner has shown us how venal blood discharges into the spleen, the liver, then into the gall bladder before it contacts the nutritional system. Thus the Ego is carried by the blood into direct contact with the process of nutrition, whose grand scheme Steiner lays out for us:

[page 179] First of all the ether-body meets the nutritional stream, and metamorphoses its substances all along the course of the digestive system; then the astral system goes forth to meet them, metamorphoses them still further, and makes them so much a part of the inner world that they more and more become inner vital activities. And now, since everything in the human organism constitutes a co-operative unity, the entire nutritional stream must in addition be taken hold of by the forces of the ego, by the blood itself. That is, the instrument of the ego must extend its activity down to where the nutritional stream is taken up.

For his finale Steiner shares with us the mission statement for the planet Earth, which means the mission statement for each and every one of us.

[page 202] *In the Earth mission, warmth is in the process of being transmuted into compassion.*

This is not an easy mission statement to assimilate without a lot of study of the physical sciences as well as Steiner's spiritual science. It is a study which encompasses not only the current condition of the Earth and humankind today, but the entire scope of human evolution as described in Steiner's [Outline of Occult Science](#). Below he gives us a precis of how this mission statement is being carried out, from now until when "sun and stars will rise and set no more."

[page 202, 203] This is the meaning of the earth process; and it is being fulfilled, since man as a physical organism is embedded in this earth-process, through the fact that all physical processes finally come together in man's organization as their crown; that everything therein, like a microcosm, in turn, of all earthly processes, opens again into new blossoming. And, as this is transmuted in the human soul, the earth-organism, through man's interest and living compassion for every kind of being, attains to that for which warmth had its intended use in the organism allotted to him as Earth-Man. What we take up in our souls through living interest, which helps us to broaden our inner soul-life more and more, we shall take with us when we shall have gone through many organizations such as enable us to use to the full, for the spirit, everything that the earth could give us as kindling heat, burning warmth, flame of fire! And when, through various incarnations, we shall have taken up into ourselves all that there is of this fervor of warmth, then will the earth have reached its goal, its purpose. Then it will sink beneath us, a great corpse, into indeterminate cosmic space; and there will arise out of this earth-corpse the untied throng of all those earthly human souls who, through their different earthly incarnations, have realized the worth of the outpouring warmth of earth-organisms by transmuting it into living compassion and interest, and into whatever can be built upon these. Just as the individual soul, when the human being passes through the portal of death, rises to a spiritual world and gives over the corpse to the forces of the earth, so to the forces of the cosmos will one day be surrendered the earth's corpse, when it shall have given to us that burning warmth we needed for the compassion which was the foundation-stone of all our higher activities of soul. This corpse which will be given over to the cosmic system, just as the individual human corpse is given over to the earth-system, will be able to see rising above it the sum of all the individual human souls, now one important stage nearer perfection as a result of earth existence, and these will then press onward to new stages of existence, to new cosmic systems. Just as in the earth-system the individual human being, after he has passed through the portal of death, advances to new incarnations, so does the throng of

all individual souls, after the earth-corpse has fallen away, advance to new planetary stages of existence.

Does considering the prospect of the Earth disappearing from the cosmos fill you with some existential angst? It ought to, if that prospect were to include the loss of everyone you hold dear, but it need not for the very good reason that *nothing is lost* during this process of evolution.

[page 203] And so we see that *nothing* in the cosmic system is lost, but that what is given to us in our organism up to the final blossoming of heat is that "material" which, when we have used it up as burning warmth, helps us to find the way to a new and higher stage leading to eternity. Nothing in the world is lost, but what the earth produces, through human souls, is carried over by them into eternity!

To close I would like to offer you the closing words of Rudolf Steiner from the final lecture of this book. It is a prayer as much as it is a statement of the reality that as friends, you and I, we will, as Emerson said, "meet as if we met not and part as if we parted not." For if it is meant to be, we will meet again, in the Spirit.

[page 205] In this Spirit we are about to separate after having been together for a while; in this Spirit we shall remain united in soul; and in this Spirit we shall meet again if it is meant to be.



~~~~~ **footnotes** ~~~~~

**Footnote 1.** This claim that our internal organs are formed out of the cosmos around us is found in many places in Steiner's works, but nowhere is it more clearly described how it relates to our living human body than in this book. Here's one reference: [Cosmosophy, Vol. 2](#)

**[page 46] The nature of our internal organs is truly such that a whole cosmos is alive in them. If we merely consider those organs the way they are presented in ordinary anatomy and physiology, this is maya to a much higher degree than the maya we face in the world around us.**

[Return to text directly before Footnote 1.](#)

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Footnote 2. Here is a passage from his lectures [Self-Consciousness](#) in which he is referring to misguided mystics:

[page 15] Everything that leads to mediumship, to hallucinations or visions, proceeds, fundamentally, from diseased bodily organs which as it were breathe their psycho-spiritual content into the consciousness in a pathological way. All these things lie below the level of sense-experience.

[Return to text directly before Footnote 2.](#)

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**Footnote 3.** Of the books I have reviewed: [Nutrition and Stimulants](#) and [From Crystals to Crocodiles](#)

[Return to text directly before Footnote 3.](#)

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Footnote 4. The Ego is the eternal spirit, the I, and it constitutes the highest of the four bodies of a human being during the present Earth period of evolution, namely, physical, etheric, astral, and Ego. In German translations, Ego is often in lowercase, but I prefer the initial capital letter to distinguish it from the lowercase ego of Freud *etal.*

[Return to text directly before Footnote 4.](#)

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