

died, we find that this portion constitutes a fairly uniform, mushlike substance, especially at the time before the child has learned to speak. As the infant gradually learns to speak, more and more small whorls develop here. They continue to form in an artful way. In other words, the left cerebral convolutions in the child who has learned to speak or in a fully grown adult are artfully structured.

He goes on to describe how children at early ages can speak vowel sounds at first, and only later learn to speak consonants, such as "mama" or "dada". Speaking consonants require motion of certain organs and as the child learns to move these organs, the whorls in Broca's area begin to develop along with the development of speech. Steiner explains that right-handed people are affected by strokes in the left-hemisphere of the brain, and vice-versa for left-handed people. Then he does something rather amazing — he explains using only the basis he has established in this one discussion so far why it is detrimental to force a child to write with its right hand if it favors its left hand. Simply put — you destroy the development of the right hemisphere that has already been taking place due to the child's early speaking efforts — and you cause them to become less intelligent as adults instead of more! He sums it up by admonishing those who try to change the handedness on a child, ". . . pedagogically speaking you would achieve the very opposite of what you are striving for."

When I studied brain function back in the 1970s, a whole lot was made about the fact that one side of the brain (usually the left) handles linear-analytic perception and thought and the other side (the right) handles holistic or all-at-once perception and thought. In the following three sentence paragraph, Steiner helps us to see why this is so: the left side has more nerves and the right side carries relatively more blood.

[page 10] Actually, very few people have both sides of the brain fully developed. Usually the right convolution contains more blood vessels, whereas the left one has fewer and instead is more permeated with nerves. This holds true for the human brain generally; the right side carries more blood, and the left is more used for perceiving.

As we saw earlier, children learn to speak by using consonants to shape their vowels into recognizable patterns. This activity causes their Broca's area to develop more on the left side (for the right-handed), the side that has more nerves and fewer blood vessels (brain matter is whiter), the side used for perceiving and handling the outside world. Now he takes us into understanding the various peoples of the world based on the relative amount of consonants in their native language. (Note that he is not talking of written languages, but spoken languages.)

[page 11] We know that languages differ in different regions of the earth. What does it mean when someone lives in a certain area where people focus more on the consonants? It means that he or she experiences the outer world more, for the consonants are formed through the experience of outer surroundings. Therefore, in people living more in the physical world the white portion of the brain shifts more to the left. In people experiencing life more inwardly, people living in a region where things are experienced more inwardly, the white brain matter does not move quite so far to the left. These people will tend to utter melodious vowels. This varies with the regions of the earth.

What also varies with the regions of the Earth is the language people of the world use, which is based on the topography of the region in which they live. For someone who wants to understand the reality of the world as it exists outside of the logical analytical thought of anthropologists, linguists, and sociologists, one can do no better than to study Steiner's works. Note how he starts here not with an argument, but with an image.

[page 11, 12] Imagine we have high mountains and a level area, a plain. Picture then steep mountains on one side and a plain on the other. Now, wherever there are flat regions, we perceive that the language people speak there is richer in vowels. Wherever there are steep mountains, the local language tends to be richer in consonants.

I can hear the linear analytical parts of some of you saying, "But, but. . ." and wielding all sorts of arguments at the ready, but Steiner is not talking only about the physical mountains influencing languages, but how the cosmic forces pulled mountains up through the Earth's crust and resulted in more consonants being pulled out of the peoples of the region. He concludes by saying, "We see now the differences between languages are connected with the forces of the entire universe."

The universe is like an enormous clock that we live in the middle of. Imagine yourself at the center of this giant clock and the Sun as the minute hand. As the Sun moves, it points in turn to different sections of the cosmos, to different numerals on the cosmic clock face, if you will. The numeral on a clock is not what's important, we know that — it's merely a pointer to a portion of the clock. Some watches and clocks have no numerals at all in some positions because we all know what is supposed to be there. This shows that the position is what is important, not the numeral at the position. Each position in the sky that the Sun points to in turn is marked by a numeral from 1 to 12 and given the name of the constellation that appears to us in that position. Those who scoff about how foolish it is to imagine that a certain arrangement of a group of stars can have an influence on one's life have the case correct. It is as foolish as imagining that the numeral on a clock has an influence on the time. What is really important is the position the numeral marks out for us. To find fault with astrology or to attempt to understand astrology without making this essential distinction is folly.

[page 12, 13] We can look up to the sun and say that when we stand here at a certain moment, then sun is between us and the constellation of Aries. That is the direction where these strong cosmic forces work from. It is not Aries itself [RJM: Aries is like the numeral on the clock.], of course. This constellation merely indicates the direction where the strong forces come from. If a person is standing in a different place at that same time, he or she is affected as follows: when the sun has moved to that place, it is in Virgo, let us say. There forces coming from this direction are weaker. Instead of going through the entire process now, I can therefore say that when someone is born in an area where at a certain time, let's say at his birth, the sun is in Aries, that person will tend to use more consonants. However, when someone is born with the sun in Virgo, he will tend to use more vowels.

Steiner shows us that if we examine what is happening inside of our brains, we will find a map of the star-filled cosmos; if we examine what is happening globally on the Earth, we find a map of the cosmos. Given that spiritual reality, the stars do indeed have an effect on us which we ignore at our own peril. We must understand this matter deeply in order to be able to distinguish between what is superstition and what is science, and we cannot expect materialistic scientists to provide but half the picture.

[page 14] You see now that it is indeed mere superstition to say, 'Whenever the sun is in Aries, such and such takes place.' This kind of statement is worthless. However, if you understand the full context, the matter ceases to be superstition and becomes science instead. And that will lead us from understanding the transformation of substances to an understanding of what is really happening and its connection to the vast universe out there.

And we humans need the forces of the entire cosmos in order to be truly human. Unfortunately, some people think that they don't need the forces of the cosmos in order to think — this also is pure folly.

[page 15] In other words, we must be able to feed ourselves and to breathe in order to become sentient beings. We must also be able to absorb forces out of the entire universe in order to become thinking beings. We can no more become thinking beings by ourselves than we can learn to speak all by ourselves. Human beings can no more think out of themselves than they can feed on themselves.

But humans can feed on other humans — this is how babies live, they live on the dissolved nutrients of

their mother's milk. The efficacy of so-called infant formulae that are supposed to be better for babies than their mother's milk has been brought into question in recent years. Steiner pointed out the stunting effects of artificial milk formulae during this discussion in August of 1922.

[page 16, 17] Remember what I said earlier about nutrition: all the food substances we eat must first be dissolved in the mouth. In a way, nature allows us to take in solid food only as far as our mouths. There we have to dissolve it with our own fluids. The other digestive organs, such as stomach, intestines, and so forth, can only use dissolved substances. Children must first acquire this ability to dissolve solid matter. At first, they cannot do it alone. Therefore, they must receive food that is already dissolved. You can tell how important this is when you consider that infants brought up on synthetic food preparations will be stunted in their growth.

Their mother's milk contains living water, that is, water enlivened by the mother's body. The water from a spring or river will bear the resemblance to the water in a mother's body as the corpse of a mother's body bears to her living body. Babies need liquid food, food that has been filled with life, and breast-feeding is the best way to provide this liquid, life-filled food. (Page 18)

Everyone has had the experience of losing their appetite when they feel sick. Hot, tasty food we would usually relish when we are well, turns our stomach when we feel sick. Clearly we not only perceive food with our eyes, nose, and mouth, but there is an inner perception going on as well. This inner perception goes on all the time, but we only notice it when an apparent contradiction occurs.

[page 26, 27] In order to become aware of something, I must not only think about it but also observe what I have thought of. The thinking going on in me may be a continuous process, sometimes occurring in the head and at other times in the entire body. But when I awake, I have my eyes open. The eyes do not only look outwards, but also perceive inwardly. Similarly, we do not only taste food in the mouth, but also perceive inwardly that, for instance, the body as a whole is ill and therefore something otherwise delicious is now disgusting to us. In fact, this inner aspect is always the determining factor. This perception of what goes on inside us is as essential as the perception of what is outside us.

Everyone knows that we become aware of dreams just as we are falling asleep or just as we are waking up. During the transition between activity and inactivity, going in either direction, is when we become aware of dreams occurring. But Steiner makes a cogent case in this discussion that our brain is more active when we are asleep and comes to a state of rest when we are awake. This is completely contrary to what the materialistic scientist maintains — namely, that physiological activity equates to thinking.

[page 30] However, it is the absence of thought activity that is accompanied by an increased physical activity. Therefore, we can say that our lungs would be lazy and inactive if oxygen from the outside did not reach them and activate. Similarly, the brain is lazy during the day, and consequently something must reach it from the outside and activate it. Just as oxygen activates the lungs, so something coming from outside the body, something is not in our body, must reach the brain during the day and initiate thinking there.

Steiner was not so foolish as to believe that his listeners would simply swallow whole whatever he said — especially something that went contrary to what they had been taught in schools. All he could do was point out to them that those teaching them in schools were the ones spreading superstition. And that, as Steiner said, is "what really matters."

[page 30] Many of you will object strongly to what I have just said. But those who say something different do not comprehend what is really going on in the human being. It is therefore not a question of spreading some kind of superstition, but of establishing a

clear understanding. That is what really matters.

In several places in his writings and lectures, Steiner uses the phrase "brain sand". I thought at first it was a colloquial phrase he was using, but it turns out that there is a medical term of that name which refers to calcareous accretions in the brain. These are minute deposits of calcium carbonate which are especially found in the pineal gland, but also form in the brain itself. Since materialistic brain scientists are mostly restricted to studying post-mortem or dead brains, they would be unable to directly deduce from their look at the evidence that brain sand is formed and dissolved in a continuous process in the living brain. Nor could they deduce much about the effect of brain sand when it is formed. Crystals of uric acid that form in our muscles cause intense pain and the syndrome known as gout. To find out what crystals of calcium carbonate cause to happen to us, read on.

[page 39] True, these mineral substances must develop; they are necessary. Autopsies of infants who were retarded and died young often reveal that the children did not have enough of what is called brain-sand. We all must have some of it. Brain-sand must develop, but it must also be dissolved again all the time.

What is it that assists us in dissolving this brain sand? It is the forces of the universe, those powerful cosmic forces which arrive at us from various directions of the cosmic clock Steiner discussed earlier.

[page 39] If we don't have enough strength to dissolve this substance, too much of it will be deposited. In fact brain-sand is continuously being deposited in the brain as we absorb food through our blood. And this brain-sand is just as much subject to the influences of the forces of the universe as everything else out there in nature. Consequently the brain-sand too has the tendency to form crystals. But this must not be allowed to happen. Without brain-sand we may become retarded, but if crystals were to form we would always be fainting because we would suffer from some sort of rheumatism or gout of the brain. This crystal formation merely causes pain in various other parts of the body, but if the crystals develop in the brain, we grow helpless and faint. In other words, we must have brain-sand, but we must also dissolve it all the time. Forming brain-sand and dissolving it again is an on-going process.

And any on-going process cannot be examined in a dead brain, so materialistic scientists would have no clue as to what is happening with brain sand and how its forming into crystals could help explain the commonly observed process of fainting.

We all know that perspiring occurs when we are exerting effort with our muscles, and we also know that if we are frightened we may also perspire. What muscle are we exerting when we perspire from fright? Is it not our brain? The excretion of minerals and water through our skin happens when we perspire from exertion. When we perspire from fright or whenever our attention is riveted to something, such as a flower at which we are looking intently, we also excrete something within our brain, namely, brain sand.

[page 41] Looking at something means constantly excreting brain-sand. And as you know, we must dissolve this brain-sand, because if we did not this mineral would develop into a tiny flower in our brain! Looking at the flower actually means that the brain-sand in us forms a tiny flower . . . It is amazing what is constantly being built inside us. However, we don't allow it to be complete. Without being conscious of it, we keep destroying the structure.

Think of the times when a person might faint — what happens? Some loud noise or event happens all of a sudden.

[page 43, 44] Let's consider the case of someone who is in poor health. When there is a sudden, tremendous thunder-clap — that can happen — then this thunder perceived with the ears, not with the eyes now but the ears, leads to brain-sand being deposited

inside the person, and a picture arises. Now if this person can't destroy the image fast enough, he may faint, lose consciousness. If he were healthier this would not happen, because then he could dissolve the brain-sand quickly enough. In other words fainting means not diluting the brain-sand fast enough. Not fainting means dissolving it quickly enough. While perceiving our environment, we must keep dissolving the brain-sand quickly.

Now Steiner has led to the very part of ourselves that most leads us to be human beings, and it is the part of us that permits us to dissolve brain-sand in an optimal fashion.

[page 44] The human head can constantly dissolve everything that enters it. This ability to dissolve everything that comes in enables us to perceive ourselves and thus to say 'I'. The dissolving of brain-sand is optimal when we can say 'I'. At that moment we permeate our language with consciousness.

When we dissolve brain-sand, we counteract what reaches us from the cosmos. If we didn't dissolve our brain-sand, "we would inwardly turn into a mountain system of superimposed layers of crystals." As I write this article at this moment, I am diluting a tremendous amount of brain-sand. I've learned that drinking coffee as I write helps me enormously. What could possibly be the connection between the two activities? Somehow drinking coffee helps writers to write.

[page 45] Why is this so? Because they absorbed caffeine, a toxic substance that contains a lot of nitrogen. Nitrogen is also in the air. When we breathe, we always absorb a certain amount of oxygen and nitrogen. To dissolve brain-sand, we need a certain force that is to be found particularly in nitrogen. Out of the nitrogen we gather the forces to dissolve brain-sand.

The world seems to be divided into coffee drinkers and tea drinkers. Most journalists are coffee drinkers and most diplomats seem to be tea drinkers. Why is this so? Steiner highlights those two category of people for us in the next two passages:

[page 46] The journalist who drinks coffee unconsciously counts on this nitrogen, which will enable him to form more brain-sand and to dissolve it more easily as well. This way his thoughts will line up properly, and instead of chewing on his pen he can now use it to write them down.

[page 46] However, people don't want to keep their thoughts too tightly connected and controlled, but want to have them shine, to put on a brilliant show and, as we say, dazzle others with their thoughts, those people will drink tea. Here we find the opposite effect. Tea scatters their thoughts and supports the dissolving of brain-sand in a different way.

The usual breakfast for office workers, especially in the USA is bacon and eggs with coffee. Looked at from the insights that Steiner provides us, such a breakfast wakes us up, and gets our thoughts going in an organized fashion.

[page 47] Therefore, when we are often sleepy we must take in food that is rich in nitrogen. There are many ways to do this, but we get nitrogen especially when we eat cheese or eggs. These will raise our nitrogen level. This is how we have to work to balance processes in us and to allow the ego [RJM: our 'I'] to work in us.

The next subject: "The Liver as Organ of Perception" will seem so far-fetched to the materialistic reader that it would be better if they stop reading at this point. I must say that before I began studying Steiner, I would have thought so myself and would have never bothered to read such apparent foolishness much less attempt to summarize this subject in a review. I would have thought that anyone who could aver such a thing was soft in the head. And yet I discover that I didn't even know of the descriptive basis of the phrase

"soft in the head," up until now.

[page 50] When we examine the brain cells of a person who had lost his mental faculties and then died, we find that the brain cells had begun to live and to proliferate. They are softer than those in normal people. This is why in the case of mental deterioration we often speak of 'a softening of the brain' and that term is not such a bad one.

In this book we have earlier heard Steiner explain that the brain cells are most active when we are asleep and unconscious, and that the brain cells are completely at rest when we are busy thinking. He said specifically, "when we are awake, our brain cells are paralyzed and nearly dead, then we can think." Think of the impact this insight has on the way scientists of the human body ought to proceed in their studies:

[page 50, 51] If our scientists were to proceed in the right way, they could not possibly be materialists. Based on the physical constitution of human beings they would realize that mental and spiritual activities are most pronounced precisely when the physiological processes fade away, as they do in the brain. The existence of soul and spirit can thus be proved in a strictly scientific way.

Look at how Steiner proceeds in his studies. He tells us that often what shows up as a liver disease in an adult at age 50 began when they were fed bad milk as a baby⁽¹⁾. How in the world is this possible? To understand how it's possible we need to understand the liver as an organ of perception, and he leads us through the processes for understanding that in this discussion. There is a large vein which carries carbon-dioxide rich blood into the liver to spread out through the organ and remain there (the portal vein). This large blood vessel acts as an organ of perception for the liver, as an inner eye. As a baby this inner eye is sensing both the taste and the quality of the milk that the baby is receiving, as well as many other things.

[page 63] People dissecting a human liver don't think about how important it is to feed infants properly. But those who realize how these things work will find ways of bringing up children in such a way that they become healthy human beings. It is much more important to establish health in childhood than to heal illnesses later. But people do not know anything about this, because they see the human being as nothing but a pile of tissue.

The next issue about raising children can help them to have healthy kidneys, and this connection between health and education is one that few schools acknowledge outside of the Waldorf and Steiner Schools around the world, up until now. The issue is that early forcing of rote memorization in children can create kidney disease in them as adults. State educators could care little about this, as they won't have to deal with the kidney disease in their students — they will be probably retired by the time the disease shows up. Doctors could care less about this, because they get paid to fix diseases when they show up, so increased kidney diseases creates more work for more doctors. Here's Steiner's common sense presentation of the causal connection of rote memorization and kidney disease.

[page 63, 64] Let's assume a child of school age is made to learn so much that his memory is overburdened, so that the child can't come to his senses, as it were. Yes, gentlemen, this definitely puts a strain on the child's spirit. But there is more to it than that; after all, for instance, by overdoing memory work, we will cause certain organs of his to harden, simply because the forces channeled to his brain will be lost to the other organs. Putting too much strain on a child's brain may lead to kidney disease. In other words, illnesses may be cause in a child not only through physical imbalances but also through the way we teach and educate.

As I read the above passage I wonder if it might have been the sharing of such thoughts to the managers and workmen of the Waldorf-Astoria Cigarette factory in Stuttgart that led the workers to plead with Steiner to create a school that would not cause illnesses in their children. It was the pleading of the workers which led to Steiner's agreeing to assist in the formation of the first school based on his work at

the Waldorf factory, from which the Waldorf School system got its name. In Australia, the name is a bit more direct in crediting the innovator; they are called Steiner Schools.

We have a head in our belly. This is a rather audacious claim to make, but hang in there. You can't say, "That's not true or I would know it." It's admittedly something we are not consciously aware of, up until now. We read earlier about how our liver is an organ of perception of the insides of our body. Now Steiner tells us that our kidneys think. Put the two together and it's like having a head that can think with eyes that can see living in our belly. If this sounds like a strange idea to you, consider how many times you've heard people say things like, "My gut told me it wasn't right." or "I have a hunch in my gut there's some truth in this."

[page 69] With our eyes we look at the world around us, with our ears we listen to the sounds of our environment, and with our liver we perceive our digestion and all related processes. The liver is our inner organ of perception. And only if we recognize the liver as an inner sense organ can we understand what happens inside us. We can indeed compare the liver with our eyes. We have, as it were, a head in our belly. This head, however, does not look outwards but inwards. Thus we are engaged in an inner activity of which we are not conscious.

A friend of mine told me that her youngest child became allergic to its milk-based formula and had to be switched to soybean-based milk. I asked her how it happened. At three months old the child was left with grandparents while its family went on a holiday. Something happened during that time, maybe a bottle was left out of the fridge too long and soured, but when my friend returned a week later, the baby could no longer tolerate its previous formula nor could it keep down milk of any kind. They were forced to go to a soybean-based formula for four months. This is one example of the liver at work perceiving what was going on inside a human body. Babies are still conscious of the perceptions of the liver and thus they are able consciously to recognize when some substance that previous made them sick is trying to be forced into their bodies and they strenuously reject such substances. This process to the unknowing adult is called an "allergy." If adults retained the conscious sensitivity to the perceptive activity of their liver, they would never eat a substance put into their mouths that could harm them.

[page 69, 70] But babies still sense this activity. They pay little attention to the world around them, and even when they do they don't understand it at all. That is why infants feel into themselves all the more. They can sense clearly when the milk contains foreign substances that must be expelled into the intestines so that they can be excreted. If something is wrong with the milk, the liver will develop the tendency to become diseased later in life.

What about this so-called thinking activity of the kidneys? Is this for real? I can't say that I can consciously experience its reality myself, and I certainly doubt that any neuro-physiologist would agree that kidneys think. But think about it — if the infant above perceived that its milk formula was bad, and only perceived it, how could it have decided what to do about the situation unless it had some internal organ closely connected to the liver which was able to think and decide on the matter?

[page 70] Thus we have not only the liver in us, which constantly perceives our digestion, but there is also a thinking activity taking place in us of which we are not aware. Even though we know the organ involved, we are not conscious of this thinking activity that complements and supports the perceptive function of the liver, just as the thinking of the brain supports the perceiving activity of the eyes. This thinking supporting the liver is provided by the kidneys and the whole kidney system.

My parents, Annette Babin and Hilman Matherne, came from a rural area and never once forced us to memorize anything, never once tried to get us to perform mental feats before they came naturally to us. My brothers and I never went to school before age seven which was the norm back in the 1940s when we

grew up. So the public school system never got its mitts on us, never got a chance to force-feed us with memorizing and calculating at too young an age.

[page 71] Let's assume a child's brain doesn't function properly. As I said, this can happen if the child has to learn too much and has to memorize too much. A certain amount of memorization is good to keep the brain agile, but too much memorizing will put so much strain on the brain that it will begin to harden. This hardening will later prevent the brain from functioning properly.

Thus, we see that premature memorization in pre-Kindergarten and Kindergarten can actually produce the opposite of the results intended. This should help make it clear why you will not find any Waldorf Kindergartens anywhere. And why 8 and 9 year-olds in Waldorf Schools don't seem to be able to add and multiply like kids from public school systems. Make a comparison of the two sets of kids five years later, fifty years later, and you will see a dramatic difference, both in intelligence and in health. For one thing, you will find fewer instances of diabetes.

[page 71] Now, since the brain is connected with the kidneys, the latter will also not work properly as a result of the brain malfunction. The human body can take a lot of abuse, but the effects will show up later. In this case, the entire metabolism is disturbed, the kidneys no longer function properly, and we can find that sugar, which should have been assimilated by the body, is excreted in the urine. The organism has become too weak to assimilate the sugar because the brain no longer works as it should. The person in question suffers from diabetes. . . . children often memorize far too much and will in later life suffer from diabetes.

So I ask you, is your child's future health and well-being too valuable for you to risk their lives in some public school system with teachers who teach by rote memorization?

Do you find it incredulous that the beef kidneys you cook for a meal can actually think? Well, naturally, they can't think. Steiner tells us that it is the "soul forces permeating the organ that are what do the thinking." Dead kidneys of humans or cattle do not think. And don't expect a medical doctor, who cannot find a soul force in Gray's Anatomy nor on the dissecting table in medical school, to understand how kidneys in a living human being can think.

Wouldn't some kind of proof that kidneys think be nice to have? There is one common experience we have all had if we've lived long enough — a bad dream following some large meal that disagreed with us. Since even scientists agree that our brain is not working when we are sleeping, how does the connection between the food and our dream content get made? Through our liver and kidneys is the answer Steiner gives us.

[page 74, 75] Let me now add something else. As I said, the Jews in antiquity still knew that kidneys participated in the vague and dull thinking that takes place at night in our dreams. Of course, at night there is none of our usual thinking going on, and we perceive only what the kidneys are thinking. During the day, we have our heads full with thought that come originally from the outside. As we don't see the small flame of a candle when a brighter light stands next to it, so we don't see the kidney activity's small light when we are awake and our heads are filled with all sorts of thoughts and ideas coming from the world around us. As soon as the head stops thinking, it begins to perceive what the liver observes and the kidneys think in the form of dreams. This is why our dreams are the way they are. . . . [For example, when we have indigestion and our intestines are hot and wriggling:] If the liver were to see reality, it would see the intestines burning. But it doesn't and instead forms a picture, for example of snakes darting their tongues in and out. We dream quite often of wriggling snakes because the liver actually sees our intestines as snakes.

Another piece of evidence that the liver is an organ of perception is found in isomorphic structures of the eyes and the liver: they both have veins depositing CO₂-rich blood which spread through the organs and remain there to be used up in the process of perception.

[page 77] Certain other organs in our body are similar to the liver, namely, the eyes. Though we find only faint indications of this in the eyes, it is nevertheless true that here, too, not all the venous blood flows out again. Arteries enter the eyes, and veins come out. However, not all the venous blood that entered the eyes flows out again; instead it is spread throughout the eyes, just as it is in the liver, only to a much lesser extent. Doesn't this tell us that eyes can be compared to the liver? Yes, and we can indeed say that the liver is our inner eye.

The ancient peoples such as the Jews and the Romans knew that their liver could see and kidneys could think. In the Old Testament, Steiner tells us that the Hebrew people knew what it meant to say, 'God has tormented me at night through my kidneys.' In our time we may be tormented at night by our kidneys and we would never know it consciously as these ancient people in an earlier stage of evolution of consciousness did. But, if this seems too remote for you, look at the first month of the year, January. Who is that month named after? Janus, the two-faced god of the Romans, who had one head looking forward and one looking backward — just as each of us have two heads, one above our shoulders looking forward and outward, and one in our belly looking backwards and inward at our body. Why would Janus be prominent in January? In the summer time, the kidneys and liver, warmed by the Sun, have not much work to do and "enter a kind of soul sleep and carry out only their physical functions." (Summarized from page 81.)

[page 81] Around Christmas and New Year, at the beginning of January, the soul activity in liver and kidneys reaches its culmination. The Romans knew this, and that's why they called this two-faced Janus, the January being.

That's something you won't read in guidebooks when you visit Rome, but it explains why the ancient Romans made the Janus faces. Steiner suggests, only half-facetiously, that guidebooks should be written by spiritual scientists.

Our body produces alcohol in our intestines during the process of digestion. I wouldn't go so far as to say that all alcoholics are greedy livers, but Steiner makes it clear that greedy livers become alcoholics. Steiner tells us on page 115 of a general principle of life: "Substances that are harmful when inside us are of benefit when they reach us from the outside, and those that are beneficial when inside us are noxious when they flow into us from the outside." Alcohol is a substance that is beneficial when created by our bodies inside us, but has a noxious effect when ingested in great quantities from outside of our bodies.

[page 90] Yes, we produce alcohol in our body. So, we don't really need to drink any alcohol because we are constantly manufacturing it in our intestines. It is only when the liver gets too greedy for alcohol and won't be content with perceiving the small amount it produced in the intestines that people become alcoholics.

There is a lot more contained in these discussions about digestion: how ptyalin works in the mouth to produce perception of taste in adults, pepsin in the stomach to produce perception of taste in children, trypsin in the pancreas to produce liver perception, and bile in the liver to produce kidney thinking. Can I point to any school where this kind of medical knowledge is taught? Yes, I can, and my answer to the question also answers a question my good friend asked me recently about the Goetheanum, namely, "What is it for?" I'll let Steiner answer that question. Recall as you read this that he was talking to the actual workmen who were in the process of constructing the Goetheanum, and that these discussions took place because they wanted to know what was this building going to be used for.

[page 98] There you can see that a truly serious science has to continue where our

modern science stops. That's what's important. That's why we have built the Goetheanum here, to enable scientists to know not just something incomplete about the stomach, but instead to be able to explain the entire body. When they can do that, they will represent true science.

Human beings are maggots in the dead corpse of the Earth. This shocker of a sentence sets the stage for the last section of this review covering discussions 7 through 10 during which Steiner gives us and the workmen a practical look at the world upon which and within which we live, our planet Earth. What do maggots live in? A dead body. A body which has been vacated by its living processes and has become dead water, dead vegetative matter, dead flesh, and dead rocks, within and upon which tiny animals can flourish.

Let us begin at the beginning, a beginning we all share: a fetus. In its mother's womb, the fetus is nearly all head. Its head is soft and living flesh all the way through during the early months of its gestation. Only later do bones show up, a hardened skull, a skeletal structure. The baby is born, expelled from its mother's womb, grows up, and eventually dies. Then the maggots take over and create a living colony in and on what was once a thriving, living human being.

Let us begin at the beginning for the Earth. It was once a large sphere, a shape resembling the shape of the early fetus of a human being. It was soft with living material pervading its body. Over time large structures of rock began to form which were living beings. Soon a time came when the Earth was born and expelled from its mother's womb, grew up and died. We as human beings, along with animals and plants of all kinds, live in colonies we comprise on and in the Earth. We stand upon its bones we call rocks, we drink of its fluids we call water containing its minerals, we breathe its blanket of surrounding air which we call air, and we ingest the vegetative and animal flesh which also feed off the Earth's dead body.

[page 112] In summary, you will understand the earth when you see it as a deceased animal. It was only after the earth had lost her own life that other beings could live here, among them, as I will describe later, human beings.

Oysters the size of France floated on the surface of the Earth. Another mind-boggling statement that would cause any materialistic scientist worth her salt to cachinnate derisively. And yet, if you will study the description of the [evolution of the cosmos](#) in Steiner's [An Outline of Occult Science](#), this idea will not seem so strange or unlikely.

[page 116, 117] If you have ever seen an oyster, you can think of it as a tiny dwarf compared to these ancient creatures. Its entire body is jellylike, slimy, and surrounded by a shell. If you now picture the shell slightly changed and covered with scales like a turtle's and picture a soft oyster body inside it, you will get an idea of the animals that inhabited the earth prior to the ichthyosaurs and the megatheria.

At that time the earth was of a thickish consistency, thicker than milk. The mountains we know today were still dissolved in it. The earth was a lump of fairly thick sauce in space. In it floated giant oysters, which would have dwarfed the size of this entire hall. They were so enormous that you could have drawn all of France on their backs; all of France would have easily fit there. So, there once lived on the earth gigantic creatures that consisted actually only of a jellylike substance and that could only move the way our oysters do, except that the latter require much thinner water. These jellylike creatures wore a gigantic armor like our turtles and swam around in the thickish liquid of the earth.

You can compare the earth of that period with a huge bowl of thick soup containing dumplings. These you must imagine so solid on one side that you would lose some teeth biting into them and very soft on the other. Just imagine that you could remove the hard portion like a hat. The other part was so soft that you could have eaten it; it was softer than the thick liquid earth in which these creatures were floating.

These ancient animals had something that you can still see today in certain small insects. For instance, you have probably all seen snails crawling along. You can follow their tracks because they leave a trail of slime. Nowadays the sun dries up the slime, and so it does not have much significance. But in those very ancient times, when the earth was not yet completely solid, the animals I described also left such slime behind, which then mixed with the thick earth soup. These creatures were therefore of benefit to the earth.

The time when oysters the size of France floated on the surface of the Earth was a time when the Earth was still combined with the Moon and existed in a much larger and more fluid condition than it does now. Obviously, for the sake of the workmen, Steiner was only using oysters as a metaphor to describe these huge jellyfish-like beings which were covered by an oyster-shell-like substance during the Old Moon phase of evolution.

The Moon today no longer creates eggs for reproduction as it did when it was inside and merged with the Earth. But it does affect human beings and animals and has a strong effect on the reproductive organs of female humans and animals. Healthy women, for example, always have their menstrual periods during the same phase of the Moon. The normal gestation period is exactly ten lunar cycles which is normally translated into nine calendar months for convenience, thus masking the intimate connection of the female body to the cycles of the month. The affects of the Full Moon on humans is widely known, especially in insane asylums and police stations which show increased activity during the time of the Full Moon. The Moon's effects are on humans and animals which populate the Earth, however, and no longer on the Earth itself. The Moon no longer creates seeds of life in the Earth and enables them to grow. Once again we see Steiner's general principle exhibited on a large scale to the Earth itself, "whatever exists within us becomes harmful when take it in from outside." (Summarized from page 122, 123.)

[page 123] But the moon does not enable the earth itself to grow, because too much of our planet is already dead. If it was once possible for the earth to be fertilized, it must then have been much more alive than today. Now remember what I said earlier: whatever exists within us becomes harmful when take it in from outside. The moon now shining upon the earth can no longer produce life. Why? Because its light comes from the outside. This is as if the air we had just exhaled tried to get back into our bodies; it could not sustain life within us or enliven us. In our time the moon cannot work any longer on the earth itself; it can affect only the bodies of human beings and animals, because they are protected.

[page 124] Therefore, you must imagine, gentlemen, that at the time of these giant oysters the moon was not separate from the earth, but dissolved in its thickish soup. It had no clear boundaries and just formed a sphere of slightly thicker material than the rest. Thus it made the earth as a whole into an egg. The moon, which in our time affects only our imagination and the bodies of women and female animals, was at one point part of the earth.

That means that at some time it must have moved away. You see, gentlemen, here we reach a tremendously important moment in the development of the earth. The moon, which in our time is always outside the earth, used to be inside it. Then the earth expelled it, and now the two are separate.

When we study the body of the earth we discover something remarkable. First of all we find that it consists of water in which continents or land masses 'float', just as these gigantic animals once swam in the liquid earth. Europe, Asia and Africa 'float' in water as these huge creatures once floated in the earth soup. When we study the forms of the various land masses, we see that they look different from each other. We also notice from the hollowing out of the earth in various places and from the receding continents that the moon once separated from the earth in the area now called the Pacific. The moon was once inside the earth and then was expelled. It hardened only after it was

outside the earth.

Some small part of the Moon remained in female bodies after the separation of the Moon and the Earth.

[page 125] Just as you take some of the old yeast and put it in the dough if you want to make a new loaf of bread, so some of the old moon substance remained in female bodies so that they could be fertilized. The egg thus fertilized is merely a reproduction of the ancient earth egg. It is no wonder that pregnancy, the length of time the unborn child is carried in the womb, is calculated on the basis of moon phases; after all, the moon is still involved in reproduction. . . . The fertilized egg . . . must still live by the moon's terms, because it has inherited its substance from the moon.

In this next passage we learn that the seed which produce new plants this year receive their vitality from last year's Sun while their beautiful flowers receive their vitality from this year's sun. Note particularly this quote: "This is generally true: inner qualities grow out of the past, but beauty is created by the present." This is true of art works of all kinds. What leads the work of artists like Vincent van Gogh to be treasured today grows out of the beauty that van Gogh created in his present time long ago, when he could barely sell a single painting. The inner qualities of those observing his work had to grow over time before van Gogh's art could be appreciated. While the beauty in art is present during its creation, often it is not understood and admired until far into the future when its inner qualities have grown to be appreciated.

[page 138, 139] What do plants do when you put their seeds into the earth? They do not simply cuddle into the sun-warmed soil, but extend their growth forces to the leaves; they extend them upwards. These green portions are developed by sun forces, by warmth, light, and so forth. This is how the sun-forces the plants get from their seeds move upwards. The sun-forces reaching plants from the outside, however, will destroy them in the process of creating very beautiful blossoms. The seeds have their vitality from last year's sun warmth, which was stored in them all winter long. The seeds do not come from this year's sun; that is an illusion. This year's sun creates the beautiful blossoms. But the seeds contain last year's sun forces, which were poured into the earth and which sustain the entire growth of the plant.

This would not be quite so easy for animals, which depend more on the sun's warmth reaching them from the outside, from the earth, and renewing them. This is because animals do not absorb the sun forces as directly as plants do; the latter, as we have seen, also bear in their bodies and their seeds the sun's warmth from the previous summer, warmth that had been stored in the earth.

This is a marvelously interesting phenomenon. If we look at it in the right way, we can say that plants and animals can procreate only through the effects of the sun. Yet the sun up there in the sky, away from the earth, is the very factor that destroys the reproductive capacity. This is just like the case of carbon dioxide. If we inhale it, it will kill us. But if we carry it inside us, it will enliven us. When the earth absorbs the sun's rays shining in from the outside, plants and animals are destroyed. However, when the earth can reflect back the stored sun-forces to its plants and animals from the inside, they are enlivened and stimulated to procreate. We can see this in plants; they produce seeds capable of reproduction only out of the sun-forces stored since the previous summer. The forces that make the new plant beautiful come from this year's sun. This is generally true: inner qualities grow out of the past, but beauty is created by the present.

Well, gentlemen, as a pachyderm, a thick-skinned animal, the elephant would benefit very little from the bit of warmth and sun energy the earth reflects back. These forces barely penetrate its skin. It had to store them, as it were, in its own seed from times long past. Yes, the elephant stored moon forces, which it requires for the female aspect of procreation. The moon is now separate from the earth and the animals bear its forces inside them.

A person who disagrees with this could of course call me a stupid fellow to claim that

ancient moon forces are still involved in reproduction and live in the reproductive cells, and that the procreative impulses of today originate from these old forces. As a reply, I would simply ask this person whether he had never encountered anything presently alive that contained characteristics originating in the past. I would show him a boy who was the spitting image of his father. Even if his dad had since passed away, I might come across someone who knew the man when he himself was only a boy, and who would confirm that this boy looked just like his father did 30 or 40 years ago. The forces of the past are always contained in what lives in the present. This holds true also for the forces of reproduction. Whatever lives in the present originated in the past.

The head of the first human being, Adam, comprised the entire Earth. Another incredible statement, one which Steiner explains fully in the passage below. If you are someone who has imagined that the Adam discussed in the Bible was a fully formed human being, perhaps you should read a bit more of Steiner if you wish to add a scientific basis for your fully introjected religious beliefs.

[page 158, 159] If you look at what I have drawn here, you can imagine the following: let us say this is the universe, the earth here, and inside it the human head, and finely diffused all around this we have the sun. Now birth occurs and this earlier condition ends. Sun and moon are both cast out, and the earth is born. Now it must survive on its own.

This process can be described in two ways. First, we can picture what the earth looked like at the time of the ichthyosaurs and plesiosaurs. Or, second, we can develop a picture of the human foetus. It is much smaller, of course, but I would describe it in the same way. We can therefore say that long ago the earth was like the foetus of a huge human being.

It is extremely interesting to note that in earlier times people somehow knew more about the world than later generations did. We will talk more about this some other time. Later generations got their information from a misunderstood Hebrew document, the Old Testament. They pictured that somewhere there was the earth and somewhere there was Paradise, and Adam lived there, standing on the earth as a tiny fellow, but already fully grown. The picture of man they formed out of the misunderstood Old Testament is as wrong as we would be if we said that the human being does not develop from this little thing with the two small allantois and amnion sacs and so forth, but that elsewhere in the mother's womb sits a tiny flea and out of this the human being develops.

This is similar to imagining the earth inhabited by Adam and Eve sitting on it like fleas and mankind somehow appearing later. This picture arose out of a misunderstanding of the Old Testament. Knowledgeable people in earlier times did not speak of Adam, but of Adam Kadmon, someone different. He is the huge head the earth used to be. This image is a natural one. Adam Kadmon did not turn into an earth flea until people became unable to imagine and to believe that a human head can be as big as the earth. They subsequently formed their unnatural, abnormal concepts. They acted as if it were merely for fun that the foetus must spend nine entire months inside the womb before being born.

We must imagine that in reality the human being was once the entire earth, and the earth was then much more alive. Yes, gentlemen, that is how it was. You see, the earth is now a fossilized being just like the human head, which is in a constant process of dying. However, the head of the foetus in the mother's womb is permeated through and through with life. It is in the same condition as the earth was before it became fossilized, as it were.

You see, if people could properly use what science has to offer, they would gain many insights. Science is all right; the only problem is that the people who control and apply it cannot make good use of it. If we look at the surface of our earth, we must say that it looks like a fossilized human! head. We actually walk around on something dead that

must once have been alive.

My fossilized human head was not immediately able to produce a brilliant paragraph to end this review, so I took a break, ate some cheese to help me create and dissolve some brain-sand, and tried to come up with an apt closing to my review of this book which is filled with incredible concepts. The workmen of the Goetheanum, by the end of the discussion period, must have begun to understand that they were constructing a building in which incredible concepts would be discussed on a daily basis from then on. To those who found themselves unable to assimilate the concepts explained herein, I can only offer this Shakespearean reminder from *Hamlet*, "There are more things in heaven and earth than are dreamt of in your philosophies, Horatio."

----- *Footnotes* -----

Footnote 1. An expert in leather can observe the effects of milk on a person's skin. See [Touching — the Human Significance of Skin](#) by Ashley Montagu.

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



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