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A READER'S JOURNAL



From Sunspots to Strawberries, GA# 354

by

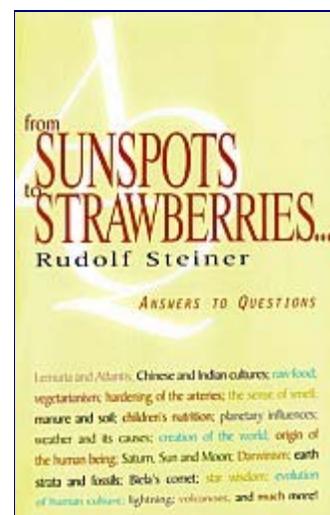
Rudolf Steiner

**Answers to Questions, June to September,
1924**

Translation Revised by Matthew Barton

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A Book Review by Bobby Matherne ©2004



Asked to talk about the creation of the world and the human being, Steiner directs our attention to a macabre metaphor — that the Earth is like a dead human being — a corpse upon which various microbes and bugs are feasting. How is it that a dead corpse of formerly living being could look beautiful to us? It's a matter of scale, he notes.

[page 3] Of course, what is outside in nature seems beautiful, and what we see on a corpse when all sorts of parasitic plants are growing out of it does not seem beautiful. But that is only because the one is gigantic in size and the other is small. If we were not human beings but were tiny beetles crawling about on a decaying corpse and could think like human beings, we would regard the bones of the corpse as rocks. We would consider what was decayed as rubble and stones; we would — since we were tiny beetles — see great forests in what was growing on the corpse; we would have a whole world to admire and not think it revolting as we do now.

Just as we must go back to what a person was before he died, so in the case of the earth and our surroundings we must go back to what once lived in all that today is lifeless, before indeed the earth as a whole died. If the earth as a whole had not died there could be no human being. Human beings are parasites, as it were, on the present earth. The whole earth was once alive; it could think as you and I now think. But only when it became a corpse could it produce the human race. This is something we can all realize if we think about it. But people today do not want to think. Yet one must think if one wishes to get to the truth.

We have, therefore, to imagine that what is today solid rock with plants growing, and so on, was originally entirely different. Originally there was a living, thinking, cosmic body — a living, thinking, cosmic body!

Unfortunately, there are many who will read this and scoff at the idea that the Earth itself was once a living, thinking, cosmic body. They will claim that the Earth came into being as just one of the planetary objects that coalesced out of a vaporous cloud spinning in the cosmos in the region of our solar system. There's even a popular demonstration that goes back to before Steiner's time that teachers used to show how the planets evolved from the spinning gas cloud. But, as spiritual scientists discover time and again when they listen to materialistic scientists explain things, they presuppose the very thing that would prove their "material-world only" hypotheses to be false! Read how the teacher starts the world spinning and then deftly omits that key element from his explanation of how the Earth formed as a result of the spinning.

[page 4] A few drops of oil are put in a glass of water; one lets the oil swim on the water. A piece of cardboard has a pin stuck through it; then with the pin one makes the

cardboard revolve; little oil-drops split off, go on revolving, and a tiny planetary system actually forms with the sun in the centre.

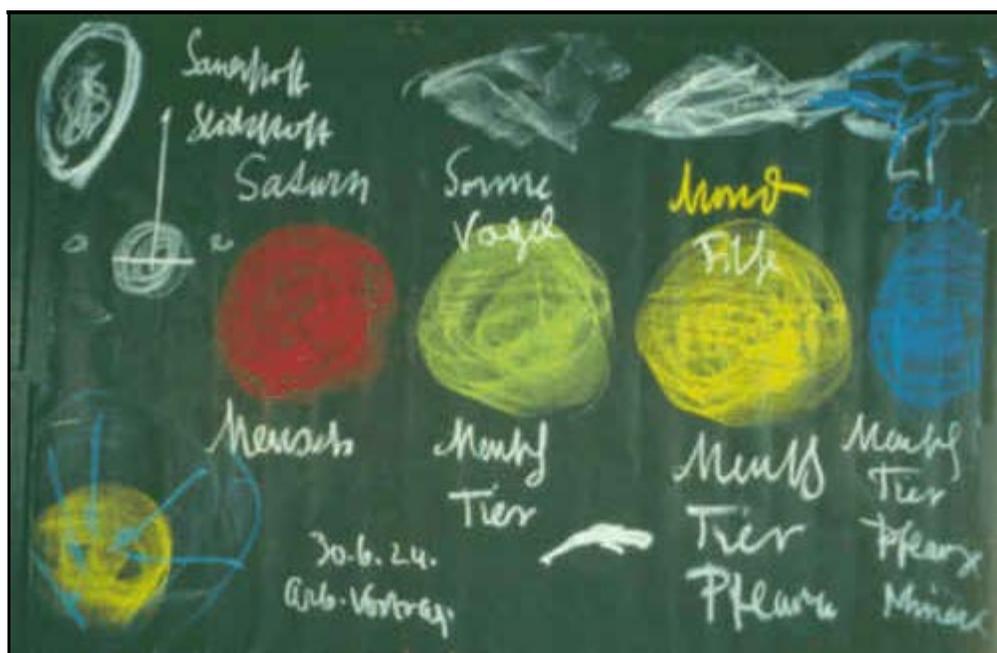
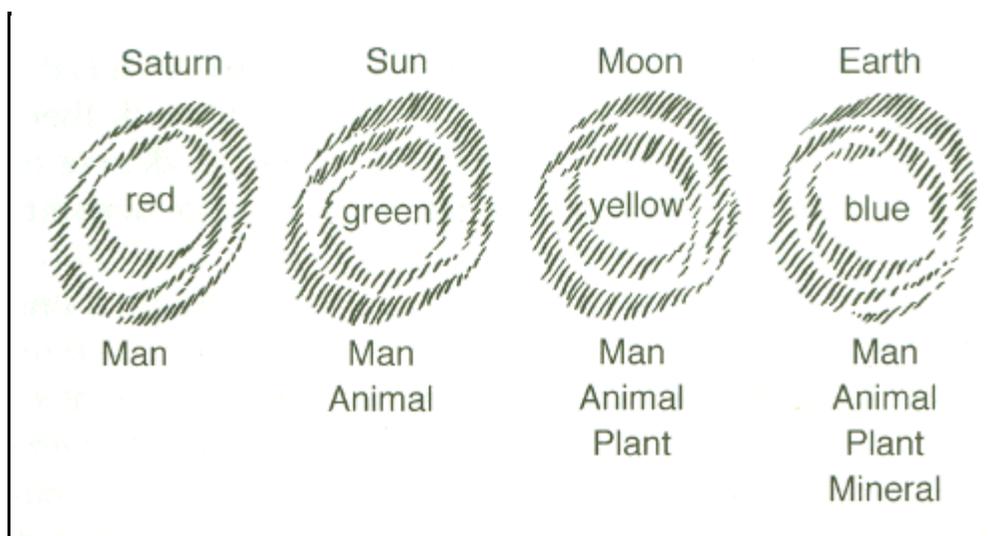
Well now, it is usually quite a virtue if one can forget oneself, but in this case the teacher should not! When he makes the experiment, he ought then to say to the children: 'Out there in the universe is a giant schoolteacher who did the rotating!'

If you accept half-baked explanations for how the Earth formed, it should not be surprising that you would have trouble imagining the Earth as a living being during the early stages of its evolution. In an earlier series of Q&A sessions, [From Crystals to Crocodiles](#), Steiner talked of Adam, the first human, as this Earth being — he was called Adam Kadmon and it is on his corpse that we as miniature organisms (compared to him) crawl, feed off of, live, and die. When Adam Kadmon was alive, he was in about the same state, on a much larger scale, that a human fetus is in during the early weeks of gestation — a large, round object, filled with life, but soft and pliable — all head with no skull. As Adam Kadmon died so that we humans may live, his head fossilized, and now we live on and off of his fossilized skull which we call the Earth.

[page 4] So we must picture that what today is lifeless around us was once alive, was sensitive, was a cosmic being. If we look further, there were even a great number of cosmic beings animating the whole. The original conditions of the world are therefore due to the fact that there was spirit within the substance.

If you think this is all balderdash, check your assumptions. Are those assumptions helping you to understand fully the origin of the Earth and humankind, or are they systematically blinding you to the spiritual aspects of our human evolution, up until now? If you read Steiner, you will have a chance to uncover those assumptions on which you have based your judgments, and will have an option on how to view the evolution of humankind for the first time. With a possibility of choice, you can then decide on a rational and scientific basis. Steiner's works will seem unscientific only to those who refuse to take their blinders off — they wander through a material world effectively shielded from the spiritual world passing to the left and right but shielded from their sight by their blinders. Like ships of pre-Columbian times, they are afraid of falling off the edge of the world into nothingness, because their blinders shield them from the truth that lies beyond the limited range of their blinder-modulated sensory perceptions. These blinders cannot be perceived by those who wear them, but their results shine through in the deeds of those who hold those assumptions which act as blinders. "By their fruits, you will know them." If you would enter into the Hall of Truth, you must check your assumptions at the door.

In this next passage Steiner takes his audience through the evolution of the cosmos and humankind — something you can read about in greater detail in his landmark book, [An Outline of Occult Science](#), but what I wish to do here is to show you how it's possible to view some of the diagrams you find in Steiner's book in their original color form exactly as Steiner drew them on the board as he spoke. The technology that made this possible was black paper and colored chalk. These original drawings of his have been preserved and are now available in a book entitled, [The Blackboard Drawings 1919-1924](#). The two drawing below are of the same diagram. The first one in black and white is from page 6 of this book and the words are in English. The second one in full color below was the one actually drawn by Steiner's hand and the words are in German. It only recently occurred to me that I could find drawings from books I was reading in their full color original form by cross-referencing the dates of the lecture in the blackboard drawings book. Here is an example of such cross-referencing. You'll note that the editor has parenthetically pointed out the green color at the bottom of the next passage. (You may be able to acquire a copy of the Blackboard Drawings book from [SteinerBooks](#). It contains 120 color plates of the over a thousand total drawings in the Steiner archives and is a useful adjunct for reading Steiner's later works.)



[page 6] When modern science says that originally there was great heat, in a certain sense it is right; but when it thinks that this great heat was lifeless, then it is wrong. A living cosmic being was present, a thoroughly living cosmic being.

Now the first thing to happen to this warmth-being was a cooling down. Things cool down continually. And what happens when what has been nothing but warmth now cools down? Air arises, air, the gaseous state. For when we go on heating a solid object, gas is formed in the warmth; but when something not yet substance cools down from above downwards, air is formed at first. So we can say that the second condition to come about was gaseous, definitely airy. [See drawing-green.]

Over the green globe is the word "Bird" in German and over the orange globe is apparently the word "Fish". This has to do with the origin of birds in the Sun epoch and the origin of fish in the Moon epoch of evolution. How do birds arrive upon birth? Covered by mineral based eggshells. How do birds eat after they are born? They eat external substances such as worms, bugs, etc. which the mother feeds them. Humans, on the other hand, are born without a surrounding eggshell and can only be fed milk from its mother's body (or a similar animal's body, such as donkey, goat, or cow). Steiner takes us through the bird development which began in the Sun-air condition, went through the Moon-water condition, and finally ending up in its present form in the Earth-solid condition.

[page 12] Let us just look at what the bird, for instance, has become on the earth. During this time (Sun condition) the bird was still a sort of air-sack; it consisted of nothing but air, a mass of air floating along. Then during this time (Moon condition) it became watery, a thickened watery thing, and it hovered as a kind of cloud — not like our clouds, though, but already containing a form. What for us are only formless water structures were at that time forms. There was a skeleton form, but it was fluid. But now came the mineral element, and this was incorporated into what was only water structure. Carbonate of lime, phosphatic lime, and so on formed along the skeleton, creating solid bones. So at first we have the air-bird, then the water-bird, and at last the solid earth-bird.

Due to the different epochs of origin for humans and birds, their response to the appearance of minerals during the embryonic state is dramatically different. The bird embryo, not ready to assimilate the minerals, pushes it away and it becomes a mineral-based shell surrounding the embryo. The human embryo has marrow-filled bones, unlike the air-filled bones which allow birds to fly, and the marrow is able to absorb minerals from the mother which will later in the gestation process be utilized to build up the hard bones of the human baby. Here we can see definitively why humans are not born inside eggs and how this fact points to human evolution pre-dating bird evolution contrary to what the blinder-wearing Darwinians would have everyone believe.

[page 12, 13] This could not be the same in the case of the human being. Man could not simply incorporate into himself what only arose as mineral during his embryonic period. The bird could do this - and why? You see, the bird acquired its air form here (Sun condition); it then lived through the water condition. It is essential for it not to let the mineral come too close to it during its germinal state. If the mineral came to it too soon, then it would just become a mineral and harden. The bird while it is developing is still somewhat watery and fluid; the mineral, however, tries to approach. What does the bird do? Well, it pushes it off, it makes something around itself, it makes the eggshell around itself! That is the mineral element. The eggshell remains as long as the bird, must protect itself inwardly from the mineral; that is, as long as it must stay fluid. The reason for this is that the bird originated only during the second condition of the earth. If it had been there during the first condition, it would now be much more sensitive to warmth than it actually is. Since it was not there at that time, it can now form the hard eggshell around itself.

The human being was already present during the first condition of the earth, the warmth condition, and therefore he cannot now hold off the mineral while he is in the embryonic stage. He can't build an eggshell; he must be organized differently. He must take up the mineral element from the womb, and so we have mineral formation already at the end of embryonic development. The human being must absorb some mineral from the womb; therefore the womb must first possess the mineral that is to be absorbed. So in the case of the human being the mineral element is incorporated quite differently. The bird has air-filled bones; we human beings have marrow-filled bones, very different from the bones of the bird. Through the fact of our having this marrow a human mother is able to provide mineral substance to the embryo within her. But once the mineral element is provided, the human being is no longer able to live in the womb environment and must gradually be born. He must first have acquired mineral constituents. With the bird it is not a matter of being born, but of creeping out of the eggshell; man is born without an eggshell. Why? Because man originated earlier and therefore everything can be done through warmth and not through air.

Birds are egg-animals, but humans pre-date egg-animals, even pre-date minerals. That is why humans must be given any minerals in a prepared form that comes from its mother or a very similar living source. While inside the womb, mineral transfer from mother to fetus occurs via the umbilical cord; outside the womb, mineral transfer occurs via mother's milk. Birds, on the other hand, do not feed their young milk,

but instead feed their young from external substances that a human baby could not ingest and digest successfully. Remarkably, Steiner tells us that humans during the previous or Moon epoch lived inside a milky fluid that provided direct nourishment to them and that humans in the womb of their mother live within a similar milky fluid before birth.

[page 13, 14] What we receive today, in our present Earth condition, from the mother's body, we received during the previous cosmic condition from the air, from the environment. What we had around us then during our whole life was like milk. Our air today contains oxygen and nitrogen but relatively little carbon and hydrogen and particularly very, very little sulphur. They have gone. During the Moon condition it was different; in the surrounding air there were not only oxygen and nitrogen but also hydrogen, carbon, sulphur. That made a sort of milky pap around the Moon, a quite thin milk-pap in which life existed. Today man still lives in a thin milk-pap before he is born! For it is only after his birth that the milk goes into the breast; before birth it passes to those parts of the female body where the human embryo is lying. That is an amazing thing, that processes in the mother's organism that belong to the uterus before birth afterwards pass to the breast. And so the Moon condition is still preserved in man before he is born, and the actual Earth condition only comes at the moment of birth, with Moon nature still present in the breast milk.

Why did people put blinders on horses in the days when horses pulled wagons through city streets? Because horses get skittish when they see shadows and cities are full of dark shadows. Material science puts blinders on its scientists to help them avoid the areas of life where their sensory-based explanations leave holes and dark shadows. Spiritual science with explanations for those same areas of life takes the blinders off its scientists. Let us now refer back to the orange sphere which represents the Moon epoch which has the word "fishes" under the word Moon (in German). Steiner shows us that fishes came after birds, another finding in which unblinded spiritual science predicts an opposite sequence of evolution from blindered material science.

[page 15, 16] Now let us look not at the bird species but at the fishes. The bird species developed for the air, the fish species for the water. Not until what we call the Moon condition were certain earlier, airlike bird-beings transformed in such a way as to become fishlike --- because of the water. To the birdlike beings were added the fish. One could say that the fish are birds that have become watery, birds received by the water. You can gather from this that the fish appeared later than the birds; they appeared when the watery element was there, that is, during the Old Moon period.

And now you will no longer be astonished that everything swimming about in a watery state during the Old Moon time looked fishlike. The birds looked fishlike in spite of flying in the air and being lighter. Everything was fishlike. Now this is interesting: if we look today at a human embryo at about the 21st or 22nd day after conception, how does it appear? There it swims in a fluid element in the mother's body, and it really looks like a tiny fish! The human being actually had this form during the ancient Moon period and he has it still in the third week of pregnancy; he has preserved it.

It would certainly be a rational question to ask that if birds evolved before fishes evolutionarily why do we not find any evidence of that? The answer has to do with what blindered science accepts as evidence: namely, fossil evidence. In the fossil evidence, one cannot find any records of birds during the Sun epoch because they existed solely in airy form, nor for that matter during the Moon epoch because they had no mineralized bones at that stage of their evolution. To use a stage metaphor, Darwinian evolution has placed itself in the position of a drama critic who is only able to see the final act of a four act play and attempts to reconstruct the sequence of developments in the first three acts which culminated in the evidence provided only by the fourth act. Such a process must necessarily be enormously error-prone and subject to the disposition of the critic as to how the development during the first three acts will be decided.

And yet, the situation for evolutionists is indeed one quantum step more difficult. They view only the evidence of the fourth act, the blue sphere or Earth epoch during which hard minerals appeared, and have no knowledge at all that the first three acts existed, no knowledge of what happened during them, and no hint even that they are knowable! When one considers the handicap under which material scientists are operating, one must recognize that their conclusions make imminently good sense, given their inability to view all of the evidence that Rudolf Steiner was able to do. When one looks at all the evidence, one must either consider that all these events, which Steiner reports happened during the first three acts or epochs, are either true or they are the most un-likeliest string of coincidences in the history of the world.

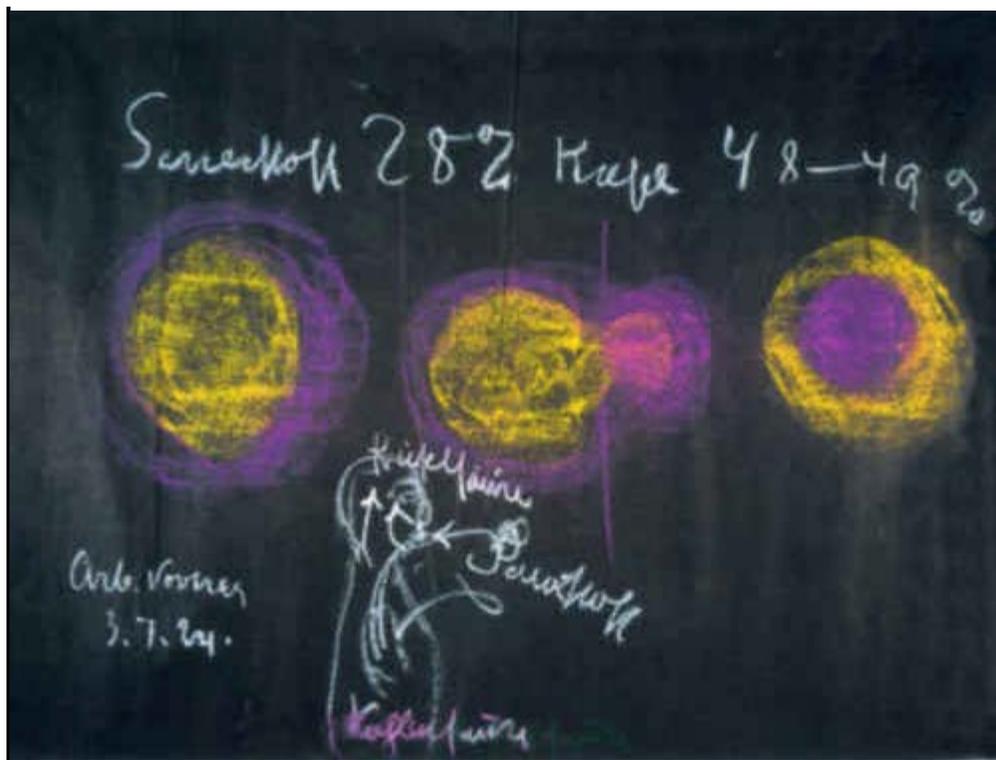
This next point, how did the Moon separate from the Earth and become a dried out planetoid while leaving the surface of the Earth covered by water, is important. We need to understand that water was a much denser fluid during the Old Moon epoch or stage of evolution — that period of time during which our Earth and Moon as we know them today were one body.

[page 18] The fluid condition, the watery condition which existed in earlier ages of our earth was therefore not that of today's water. That did not exist, for all substances were dissolved in the water. All the substances that you have today -- the Jura limestone mountains, for instance — were dissolved; harder rocks that you can't scratch with a knife (limestone can always be scratched) were also dissolved in the water. During this Old Moon stage, therefore, we are talking of a thickish fluid that contained in solution all the substances which today are solid.

In addition large quantities of metals and sulphur were present in the air, Steiner tells us.

[page 20] The air was quite saturated with sulphur. So there was a thickish water — if one had not been especially heavy one could have gone for a walk on it; it was like melted tar — and there was a dense air, so dense that one could not have breathed in it with our present lungs. These formed only later.

[page 21] Organs are formed entirely according to the function they are needed for. It is very interesting that an organ is simply not there if it is not needed. And so lungs only developed when the air was no longer so full of sulphur and metals as it had been in those ancient times.



Steiner asks us to imagine the Moon-Earth combination as an egg with a thick yolk of heavy-material fluid in the center (the water phase, yellow center in figure above) and a thinner surrounding fluid surrounding it (the air phase, purple outer shell in figure above). Then the spinning object separated into two separate objects, the Earth and the Moon. The color figure is also taken from the Blackboard Drawings book, page 156, and was drawn by Steiner during this particular discussion on 3 July 1924. During the separation phase, there is a lot more heavy-material center fluid (water phase, yellow) released from the equator than the lighter peripheral fluid (air phase, purple). As a result the heavy fluid surrounded the lighter one, as in the right hand sphere in the figure which shows a the purple phase surrounded by the yellow phase. From this we can see clearly how, although the Moon-Earth before separation were all of one substance, upon separation, the Earth came to have a solid center with a watery surface and air atmosphere, and the Moon came to have a solid surface and an airless atmosphere - none at all. This is a simplification of the complex process the two bodies underwent post-separation, but this gives us an excellent overview of what happened at the time of the separation.

[page 24, 25]Whereas the Moon-earth remained with thick fluid for its inner nucleus. and thickish air outside, a body split off which now had the thicker substance outside and the thinner inside. And if one investigates the matter without prejudice, in honest research, one can recognize in this body the present moon. Today just as one can find sodium in the air, one can also learn the exact constituents of the moon, and so one can know that the moon was once in the earth. What circles round us out there was formerly within the earth, then separated off and went out into the cosmos.

With the departure of the Moon, a new epoch began during which hardened forms became possible for minerals, plants, animals, and human beings. With this came death to the body of the Earth, but death at one level in the cosmos provides life at another level. With the death of the Earth, its corpse became teeming with life crawling all over its surface. While the image of human beings as maggots may turn the stomach, it is a valid image when the process of evolution is rightly understood from the spiritual level as well as the materialistic level. While the Earth was in its rotting stage, the humans swam through the thick seas which covered the planetary body, resembling ever so much the fishlike stages of fetal growth that we each went through in the womb. Rightly understood, the ontogeny of a human being from conception mirrors the evolution of the human being from the first Adam, Adam Kadmon, whose shape was identical

to the fertilized egg at conception and filled the entire Earth at the time. In the human development from conception onward we can find stages which resemble the various phyla — an amoeba stage, a fish stage, a bird stage, a reptile stage, a primate stage — but not because humans were descended from this various animals. Humans preceded all of the animals, but during stages where these animals first appeared, humans living at that time resembled the animals. When fishes appeared, humans had gills, for example. These conditions must be understood before one can claim that ontogeny recapitulates phylogeny. Rightly understood, human ontogeny resembles during its progress certain phyla of the animal kingdom. That is, as a human matures from its start as a single fertilized cell in the womb, it takes on characteristics that resemble the phyla of the animal kingdom, beginning at the lowest and going progressively through higher and higher orders until it eventually transcends the animal kingdom entirely (loses all resemblance to animal) shortly before the human being is born.

[page 52, 53] Present-day man has his solid bone structure only because there are hard minerals in the world outside. To our calcareous bones belong also the calcareous mountains with which we continually exchange calcium; we drink it in our water, and so forth. In that earlier time there was not yet such a solid bony skeleton. Human beings could have had only soft cartilage, like sharks. Also they could not have breathed through lungs as we do today. At that time they had to have a kind of swimming bladder and a kind of gills, so that the human being who lived then was in his external form half man and half fish. We cannot escape the fact that man then looked quite different - half man and half fish. And if we go back to still earlier times we find that man was much, much softer. If we go still further back he was watery, quite fluid. So naturally no fossils were formed then; man was just absorbed into the rest of the earth's fluids. So that is the way we have grown into what we are today. When we are still in our mother's womb, we are a little bag of fluid. But that is something very small. In those times we were huge, great fluid or jelly-like beings. And the further we go back in Earth evolution, the more liquid man becomes and the more he is really a soft jelly-like mass—not formed out of present-day water, for out of that, naturally, no man could be made — but out of a substance somewhat like albumen. Out of such a substance it was possible for the human being to be formed.

The sinking of Atlantis, representing the accounts of the Flood in the Bible, was the result of a major Earth change. Where Atlantis was, the land, which was acceptable as a living condition for the fish-men of the time, began to change. The water began to separate from the boggy land and the boggy land began to compact more and more. The more it compacted, the further down it moved, till it eventually resided in the place we know to be the floor of the Atlantic Ocean. Those Atlanteans who lived during this subsidence moved to the higher ground that was developing in the islands of the eastern edge of Europe, and onward through Europe, all the way to the edge of Asia and perhaps further. With this understanding of how Atlantis sank, it would be folly for anyone to try to recover any artifacts from the so-called lost civilization of Atlantis. If there were any, which is unlikely, they would be perhaps thousands of feet below the floor of the Atlantic Ocean. In addition, the culture of the people consisted mostly of gestures, and thus could not be dug out of the ground! (page 63)

From this next passage, I get the sense that perhaps Noah's Ark was a metaphor for Atlantis, which as the water got higher and the land sank, the animal forms we are familiar with today disembarked from the Ark of Atlantis and moved over the rest of the world, all of these animals descended from the human being.

[page 53] Then the earth gradually changed into the form it has today. The floor of the Atlantic Ocean sank ever more and more; the boggy, slimy, albumen-like condition gradually changed into the present water and gradually brought about a change in these fish-men. But the most diverse forms arose. The more imperfect of these fish-men became kangaroos, those a little more advanced became deer and cattle, and the most perfect became apes or men. You see from this that man did not descend from apes; man was there, and all the mammals really descended from him, from these human

forms in which man remained imperfect. So we must say that the ape descended from man, not that man descended from the ape. That is so, and we must be quite clear about it.

You see, you could make it clear to yourselves through the following. Imagine a really clever man who has a small son. This son suffers from hydrocephalus and is very dull-witted. Let us say that the clever man is about 45 and the small son seven or eight. The boy turns out to be dull witted. Now could anyone say that because the boy is a small, imperfect human being, the mature man, the clever, perfect person is descended from the small, imperfect being is descended from the clever one; the other assertion would be a mistake. This mistake was made when it was thought that apes, the manlike beings who were left behind, are man's ancestors. They are the human beings left behind, so to speak, the imperfect specimens of mankind left behind.

The next passage outlines a description of how the humans of Atlantean times differed from us today. They had no bony skull covering their brain, only a thin skin. Their forehead went straight up as the human forehead does today; their heads looked much as our heads appear in utero. They had a watery brain as we do today, and with that watery brain they thought.

[page 54, 55] You see, if we had looked at the people of Atlantis, those who lived before the floor of the Atlantic Ocean sank and the sea rose, we would have found that they had quite a thin skin, a little soft cartilage — like a net — as covering for the head; and all the rest of them was water. If you look today at someone with hydrocephalus, he does not have a backward sloping forehead, but a high, prominent one, so the Atlantean head was much more like the hydrocephalic head. Imagine that the Atlantean had this head, but watery, such as we see today in an embryo. Think of the earth and of how the ground sank where the Atlantic Ocean is now, and thus the Atlantic Ocean came into being. Europe and Asia rose more and more; there everything rose. In America the earth rose also, while in between it sank. The earth changed. Human beings acquired harder bones. So when we go back into earlier times when the area of the Atlantic Ocean was still solid land, people had soft bones, just cartilage; there was still water in them. And human beings could also think with the water. Now you will say: For heaven's sake! Now he expects us to believe that people of that time did their thinking not with a solid brain, but a watery one! But indeed, gentlemen, none of you think with your solid brain! You all think with the water in which your brain floats; it is superstitious to imagine that you think with your solid brain. Not even the obstinate thick-heads who can grasp nothing but the ideas which they accepted in early youth — not even they think with their solid brain; they also think with the brain water, although with the denser parts of it.

When the Earth changed after the Atlantean epoch, the human heads acquired a bony skull with low foreheads at first, but over time the nearly vertical skull returned. The low, sloped foreheads characterized the human fossils discovered in the Neander Valley (or Thal in German, and thus the name).

[page 55] But then came the time when this kind of water, this slimy, albuminous water, disappeared. People could no longer think with it; the bones remained, and that low skull appeared. It was only later — in Europe and over in America — that this grew out again to a high forehead. So we must say, the old Atlanteans had very high foreheads in their watery heads. Then, as I said, when the water disappeared, low foreheads appeared at first, and then they gradually grew out again into high foreheads. It was just in a transitional age that people looked like Neanderthal man, or like the remains found in the south of France or in Sicily. They were a transitional human being who lived in the coast areas where the ground gradually sank. The humans we dig up today in the south of France are not primitive people but later human beings. They are our ancestors, but of a later period.

When the Earth became solidified enough, humans dug into it to create homes for themselves. By the time the ground had become so hard that it wasn't possible to dig caves, humans found easier ways of making shelters for themselves. The remarkable novel by Jean Auel, [The Clan of the Cave Bear](#), highlights the time of the sloping head Cave Bear Clan during which a new human with a high forehead came into being. The fossil of that type of human is called Cro-Magnon. In the story, Ayla, a young Cro-Magnon woman, has her parents and relatives all killed and is taken in by the Neanderthal Cave Bear Clan. Auel presents us with a plausible image of how the advanced Cro-Magnons were treated as retards at the hands of the predominant Neanderthals of early Cro-Magnon time. A study of brain physiology indicates that the Cro-Magnon people signaled the advent of the neocortex whose convolutions required the extra space provided by a more vertical forehead. (See my essay [The Childhood of Humanity](#), which deals with the greatly improved cognitive functions provided by the neocortex and how it impacts our lives yet today.)

[page 56] And it is interesting that, belonging to the same period in which these human beings with a flat, low forehead must have lived, we find caves where there are things which tell us that the people of that time did not live in houses, but in places in the earth where they dug themselves in. But for that the earth must first have become hard. So at the time when the earth was not yet quite so hard as it is today, or at least somewhat less hard, people burrowed into the earth to make their dwelling-places, and these we still find today.

As we move forward in evolution, we come to the oldest culture we know much about, the Chinese people, and we can understand their oldest artworks if we understand the difference in the atmospheric conditions as well as the paradigm of evolution of consciousness present in them in those earliest times. This is what Steiner tells us. If the ancient Chinese painted one man larger than another, it was not because he was closer, but because he was more important. They thought themselves right into the subjects they painted and they painted from within outwards. Plus their air was much denser than ours. Have you ever noticed how shadows seem to disappear on a misty morning? If you had lived in such an atmosphere, you would have painted without the use of light and shade as they did. Those who offer explanations for things without taking into account the evolution of consciousness between now and the time of the thing they are explaining will go far astray and will present folly instead of facts. And the greatest folly is to pretend that the ancient Chinese thought the same way we do today.

[page 70, 71] You will realize, therefore, that learning to see came only later to mankind. Human beings in that early China thought only in pictures, they did not form general concepts like 'table' and so on, but what they saw they apprehended inwardly. This is not to be wondered at, for the Chinese descended from a culture where seeing was different. Today we see as we do because there is air between us and the object. This air was simply not there in the regions where the Chinese first became established. In the times from which the Chinese descended, people did not see in our way. In those ancient times it would have been nonsense to speak of light and shade, for there was not yet any such thing in the density the air then had. And so the Chinese still have no light and shade in their painting, and still no perspective. That came only later. From this you can see the Chinese think in quite a different way; they do not think as people do who came later.

When one thinks of Chinese paintings, one thinks of intricate line drawings on vases perhaps of temples, trees, and people. But when one thinks of Indian paintings, one thinks of deep blues and reds, painted faces, elaborate costumes, and always it seems, multiple heads and arms in endless repetitions. Few cultures are so dramatically different in their ancient artworks as China and India. How are we to understand this difference?

[page 74, 75] It was quite different with the Indians. When Indians were going to paint a picture they would start by painting a head. They too had no such thing as perspective. But they would at once have had the idea that a head could often be different, so they

would make another, then a third again different, and a fourth, a fifth would have occurred to them. In this way they would gradually have had 20 or 30 heads side-by-side! These would all have been suggested to them by the one head. Or if they were painting a plant, they imagined at once that this could be different, and then there arose a number of young plants growing out of the older one. This is how it was in the case of the Indians in those very ancient times. They had tremendous powers of imagination. The Chinese had none at all and drew only the single thing, but made their way into this in thought. The Indians had a powerful imagination.

This next passage clears up something that has always been confusing to me — people talking about the religion of China when there didn't seem to be any. Steiner tells it straight — what people called the religion of China was a fanciful European projection upon the Chinese people of something the Chinese knew they didn't possess.

[page 75, 76] You see, the Indians are quite different people from the Chinese. The Chinese lack imagination whereas the Indians have been full of it from the beginning. Hence the Indians were predisposed to turn their culture gradually into a religious one, which up to this day the Chinese have never done — there is no religion as such in China. Europeans, who are not given to making fine distinctions, speak of a Chinese religion, but the Chinese themselves do not acknowledge such a thing. They say: You people in Europe have a religion, the Indians have a religion, but we have nothing resembling a religion.

In Jungian terms we might say that the Chinese are highly intuitive. An intuitive person knows how to enter into something external and perceive it accurately without ever touching it or even approaching it. I would imagine that this ability would show itself in someone who would say, "That person left a bad taste in my mouth."

[page 76] This predisposition to religion was possible in the Indians only because they had a particular knowledge of something of which the Chinese were ignorant, namely, of the human body. The Chinese knew very well how to enter into something external to them. When there are vinegar, salt and pepper on our dinner table and we want to know how they taste, we first have to sample them on our tongue. For the Chinese in ancient times this was not necessary. They already tasted things that were still outside them. They could really feel their way into things and were quite familiar with what was external. Hence they had certain expressions showing that they took part in the outside world. We no longer have such expressions, or they signify at most something of a figurative nature. For the Chinese they signified reality. When I am getting to know someone and say of him 'What a sour fellow he is!' - I mean it figuratively; we do not imagine him to be really sour as vinegar is sour. But for the Chinese this meant that the person actually evoked in them a sour taste.

But the Indians were different, more sensate and directly attuned to their own bodies at all times. I remember ads on early TV for "Carter's Little Liver Pills". Truthfully I had no idea what they were for. What was a liver problem anyway? I seem to have heard of *liver complaint* but have had no knowledge of what that is or means, up until now. Perhaps those little pills helped the liver secrete bile and thereby alleviate liver complaint. Seems folks today are not conscious of their liver as much as they were a mere fifty years ago. From reports I hear from others, most people aren't conscious of any part of their body until their doctors call it into their awareness.

[page 76] It was not so with the Indians; they could go much more deeply into their own bodies. If we go deeply into our own bodies, we can feel something there under certain conditions. Whenever we've had a meal and it remains in our stomach without being properly digested, we feel pain in our stomach. If our liver is out of order and cannot

secrete sufficient bile, we feel pain on the right side of our body then we are getting a liver complaint. When our lungs secrete too freely so that they are more full of mucus than they should be, then we feel there is something wrong with our lungs, that they are out of order. Today human beings are conscious of their bodies only in those organs that are sick. Those Indians of ancient times were conscious even of their healthy organs; they knew how the stomach, how the liver felt.

In the next discussion Steiner is again asked about the relationship between food and the human being. My review of [Nutrition and Stimulants](#) contains two drawings which illustrate the [inverted relationship](#) of the human being to the plant world and which plants are associated with which parts of the human body. In an earlier Q&A session in [From Comets to Cocaine](#), I wrote in my review:

This knowledge of which plants to use can be understood if one simply pictures the human being in its inverted relationship to the plant world. If you do this, you will be able remember which portions of a plant are most likely to be helpful for certain illnesses.

[page 301] One must realize the following, for example. One must start with illnesses that affect the human abdomen. If one has such an abdominal illness, one comes to know that the substances present in the blossoms or the highest leaves of plants are especially helpful. Good remedies can be produced for illnesses of the abdominal organs by extracting certain substances from the blossoms and leaves of plants. Substances taken from the roots of plants, however, provide especially beneficial remedies for everything connected with the human head.

From what we've heard earlier about how the relationship of the human head to the Earth, it should be easy to comprehend how important the minerals of the Earth are to the human head. It is also true that the portions of plants that grow in the Earth are related to the human head, what we generally call "root crops" such as beets, carrots, radishes, etc.

[page 84] And now look here, gentlemen! The part of the human being that is related to the whole earth is the head. Not the feet, but actually the head. When the human being starts to be an earthly being in the womb, he has at first almost nothing but a head. He begins with his head. His head takes the shape of the whole cosmos and the shape of the earth. And the head particularly needs minerals. For it is from the head that the forces go out that fill the human body with bones, for instance. Everything that makes a human being solid is the result of the way the head has been formed. While the head itself is still soft, as in the womb, it cannot form bones properly. But as it becomes harder and harder itself, it passes to the body the forces by which both man and animal are able to form their solid parts, particularly their bones. You can see from this that we need roots. They are related to the earth and contain minerals. We need the minerals for bone-building. Bones consist of calcium carbonate, calcium phosphate; those are minerals. So you can see that the human being needs roots in order to strengthen his head.

In the womb, the human being is all head at first, and the head continues to exert forces over the rest of the human body during the remainder of one's life. We can observe the relationship of the head to the body easily in a child who develops worms — this indicates that the child's head forces are not reaching all the way down into the intestines. The remedy is to strengthen the head forces by feeding the child true root crops such as carrots, beets, and radishes.

[page 84, 85] And so, gentlemen, if for instance a child is becoming weak in his head - inattentive, hyperactive - he will usually have a corresponding symptom: worms in his intestines. Worms develop easily in the intestines if the head forces are too weak, because the head does not then work down strongly enough into the rest of the body. Worms find no lodging in a human body if the head forces are working down strongly into the

intestines. You can see how magnificently the human body is arranged! — everything is related. And if one's child has worms, one should realize the child's head-forces are weakened. Also — whoever wants to be a teacher has to know these things — if there are persons who at a later age are weak-minded, one can be sure they had worms when they were young.

And so what must one do if one observes this in the child? The simplest remedy is to give him carrots to eat for a while - with his other food, of course; naturally, one couldn't just feed him on carrots alone. Carrots are the root of the plant. They grow down in the earth and have a large quantity of minerals. They have the forces of the earth in them, and when they are taken into the stomach, they are able to work up through the blood into the head. Only substances rich in minerals are able to reach the head. Substances rich in minerals, root substances, give strength to a human being by way of the head. That is extraordinarily important. It is through carrots that the uppermost parts of the head become strong - which is precisely what the human being needs in order to be inwardly firm and vigorous, not soft.

Potatoes are called "root crops" as well as carrots, beets, etc, but potatoes are actually thickened stems and the roots of the potato proceed from the boundary of the potatoes themselves and are not eaten.

[page 86] The real roots are tiny rootlets, root hairs, that hang on the tubers. They fall away easily. When you gather up the potatoes, the hairs have already fallen away. Only in the first moment when you are lifting potato loose from the soil, the hairs are still all over it. When we eat a potato, we are really eating a piece of swollen, enlarged stem. It only appears to be a roots; in reality it is stem or metamorphosed foliage. The potato is something down there between the root and the stem. Therefore it does not have as much mineral content as the carrot; it is not as earthy. It grows in the earth, but it is not so strongly related to the earth And it contains particularly carbohydrates; not so many minerals, but carbohydrates.

Residing right below the surface of the ground, potatoes are related to the very bottom of the head, the jaw and gullet. What is in the jaw? Our tongue with its taste buds. As a result potatoes are very tasty and this has resulted with them becoming a ubiquitous accompaniment as a side dish to our meals, even the fast food kinds, up until now. Potatoes are not useful for producing head forces and have in fact the opposite effect. They require a lot of energy to digest and do not in return supply a lot of energy — they leave us feeling the need for more energy. Our term "couch potato" applied to someone who spends a lot of time on a sofa watching TV in soporific lassitude shows our innate understanding of the ill-effects of eating too many potatoes.

Here's a brief excerpt from my review of an earlier Q&A session called [From Elephants to Einstein](#) which describes how we become weak-brained or couch potatoes by eating too many potatoes:

The third food he mentioned above was carbohydrates, sugars and starches. Another fad diet that has made its rounds in recent years involves carbohydrates. What happens when we eat sugars or starches? They turn into alcohol in the body, they ferment basically speaking. Potatoes are mostly starch, but quickly turn into sugar in the process of digestion. (One type of beets is made directly into refined sugar.) The eating of too many potatoes, Steiner tells us, is bad for the head because of the effort required by their "I" to combat the fermentation of the sugar the body creates from the starch of the potatoes.

[page 44] People who eat too many potatoes and have to make a terrible effort in their heads to cope with potato fermentation therefore tend to be weak in the head. It is mainly the middle parts of the brain that grow weak, leaving only the front parts which make little effort to prevent potato fermentation. It is actually due to the fact that potatoes have come to be widely eaten in recent times that materialism has developed,

for this is produced in the front part of the brain.

One of the salubrious effects of the current fad of the low-carbohydrate diets will be to reduce potato consumption. But all carbohydrates are not created equal, a fact that the chemical decomposition analyses displayed on the side of food packages will never reveal. Take, for example, the dramatically different effects on our bodies of the carbohydrates in potatoes and grains.

[page 87, 88] Now to the same extent that the potato is a rather poor foodstuff, all the grains — wheat, rye, and so on — are good foodstuffs. The grains also contain carbohydrates, and of such a nature that the human being forms starch and sugar in the healthiest possible way. Actually, the carbohydrates of the grains can make him stronger than he can make himself by any other means. Only think for a moment how strong people are who live on farms, simply through the fact that they eat large quantities of their own homemade bread which contains the grain from their fields! They only need to have healthy bodies to start with, then if they can digest the rather coarse bread — it is really the healthiest food for them. They must first have healthy bodies, but then they become quite especially strong through the process of making starch and sugar.

A lesser known fad diet is eating only raw or uncooked foods. Steiner takes a look at the reason we cook certain foods and you can read what he says and decide for yourself whether eating all foods raw would be a good thing for you or not.

[page 88] Now a question might be raised. You see, human beings have come in the course of their evolution, quite of their own accord one can say, to eat the grains differently from the way animals eat them. A horse eats his oats almost as they grow. Animals eat their kernels of grain raw, just as they come from the plant. The birds would have a hard time getting their seed if they had to depend upon someone cooking it for them first! But human beings have come of themselves to cook the grains. And now, gentlemen, what happens when we cook the grain? Well, when we cook the grain, we don't eat it cold, we eat it warm. And it's a fact, that to digest our food we need inner warmth. Unless there is warmth we can't transform our carbohydrates into starch ... and the starch into sugar - that requires inner heat.

So if we first apply external heat to the foodstuffs, we help the body so that it does not have to provide all the warmth itself. By being cooked first, the foods have already begun the fire process, the warmth process. That's the first result. The second is that they have been entirely changed. What happens to the grain when I make flour into bread. It becomes something quite different. And how has it become different? Well, first I have ground the seeds. What does that mean? I have crushed them into tiny, tiny pieces. And you see, what I do there with the seeds, grinding them, making them fine, I'd otherwise have to do later within my own body! Everything I do externally I'd otherwise have to do internally, inside my body; so by doing those things I relieve my body. And the same with the baking itself: all the things I do through cooking, I save my body from doing. I bring the foods to a condition in which my body can more easily digest them.

If we eat food that would be better cooked, our intestines would have to provide the warmth that we didn't provide in the cooking process. That's why when people are weak due to an illness we provide them with hot soup, such as chicken soup or broth. They can enjoy the soup because it doesn't exact a toll on their body to digest the nutrition contained within. One can begin to see the wisdom in Steiner's spiritual science or anthroposophy in such practical areas as how we should go about eating and cooking our foods. Here is his summary of why we combine certain foods on our table for breakfast, lunch, and dinner.

[page 92] That, I would say, is the secret of human nutrition - that if I want to work upon my head, I have roots or stems for dinner, If I want to work upon my heart or my lungs, I make myself a green salad, And in this case, because these substances are

destroyed in the intestines and only their forces work on in us, cooking is not so necessary. That's why leaves can be eaten raw as salad. Whatever is to work on the head cannot be eaten raw; it must be cooked. Cooked foods work particularly on the head. Lettuce and similar things work particularly on heart and lungs . . .

Ever wonder why some people eat stewed prunes? I did because I like prunes right out of the box. And yet, they taste really delicious if you cook them a bit. And fruit preserves which we eat over grains — it's more than just for convenience, it's easier to digest and nourishes your digestive organs as well. This is especially helpful in morning while our body is just getting fully awake. No wonder fruit preserves are on every breakfast table.

[page 93] But cast an eye up at the plums and apples, at the fruits growing on the trees — ah! those we don't have to bother to cook much, for they've been cooked by the sun itself during the whole summer! There an inner ripening has already been happening, so that they are something quite different from the roots, or from stalks and stems (which are not ripened but actually dried up by the sun). The fruits, as I said, we don't have to cook much — unless we have a weak organism, in which case the intestines cannot destroy the fruits. Then we must cook them; we must have stewed fruit and the like. If someone has intestinal illnesses, he must be careful to take his fruit in some cooked form — sauce, jam, and so forth. If one has a perfectly healthy digestive system, a perfectly healthy intestinal system, then fruits are the right thing to nourish the lower body, through the protein they contain. Protein from any of the fruits nourishes your stomach for you, nourishes all your digestive organs in your lower body.

Even Steiner praises our basic human instincts which have led us to eat a variety of foods over the millennia. No matter what the explanation du jour for why we eat a certain variety, deep down our instinct is helping us to make good decisions for the most part. For example, tea made out of flowers have been known to be helpful to the digestion — this has been known for a long time, and we can understand why that would be so — like fruits, flower petals are cooked by the Sun before they reach our body and they help nourish our organs of digestion.

[page 93] You can see what a good instinct human beings have had for these things! Naturally, they have not known in concepts all that I've been telling you, but they have known it instinctively. They have always prepared a mixed diet of roots, greens and fruit; they have eaten all of them, and even the comparative amount that one should have of these three different foods have been properly determined by their instinct.

Unfortunately, a zealous diet food industry and medical profession has been for many years giving out eating recommendations based on materialistic science rather than instinct. Every generation has had to learn again it seems the lessons of instinct while health food products, health-restorative spas, and health food stores pop up anew each generation, often with new names. Two health food innovations of a previous generation that have become off-the-shelf items at our supermarkets are graham crackers and corn flakes. The two innovators have given their names to the eponymous products, Dr. Graham and Mr. Kellogg, but few young adults today realize the origin of these products as health foods made popular in the early 20th Century.

Dr. Steiner gave 6,000 lectures in the course of about 25 years. If you do the math, that's 250 lectures a year, almost one a day. These lectures were given in such diverse locations as Berlin, Wales, Norway, and many different cities in Germany in the day when train was by train, boat, and early automobiles on poor roads. His travel schedule must have required many over-night journeys from one place to another. How did he survive such a strenuous regimen? He attributes it to his vegetarian diet. He does not recommend a vegetarian diet for everyone, but merely explains how it helped him to keep his strength up by requiring his body to create its own fats instead of ingesting them second hand from animal flesh. And he gives us a case in point that contradicts anyone who might claim that no one can keep up their strength without

eating meat.

[page 95, 96] But it is no use being fanatic about these things. There are people who simply cannot live if they don't have meat. A person must consider carefully whether he really will be able to get on without it. If he does decide he can do without it and changes over from a meat to a vegetarian diet, he will feel stronger than he was before. That's sometimes a difficulty, obviously; some people can't bear the thought of living without meat. If, however, someone does become a vegetarian, he feels stronger — because he is no longer obliged to deposit alien fat in his body; he makes his own fat, and this makes him feel stronger.

I know this from my own experience. I could not otherwise have endured the strenuous exertion of these last 24 years! I never could have travelled entire nights, for instance, and then given a lecture the next morning. For it is a fact, that if one is a vegetarian one carries out a certain activity within one that is spared the non-vegetarian, who has it done first by an animal. That's the important difference.

But now don't get the idea that I'm making propaganda on behalf of vegetarianism. It must always be first established whether a person is able to become a vegetarian or not; it is an individual matter.

I checked a modern nutrition book and it claims the daily protein requirement is 25 to 30 grams for someone doing light work. In Steiner's time, the amount was thought to be about four times that much. The two sayings over the Temple of Apollo in ancient Greece are applicable to proper nourishment: 1) Know Thyself and 2) Nothing in Excess. And nowhere is that more true than in the ingestion of protein. First read what Steiner says about protein.

[page 96] You see, this is especially important in connection with protein. One can digest protein if one is able to eat plant protein and break it down in the intestines. And then one gets the forces from it. But the moment the intestines are weak, one must get the protein externally, which means one must eat the right kind of protein, which will be animal protein. Hens that lay eggs are also animals! So protein is something that is really judged quite falsely unless it is considered from an anthroposophical point of view.

When I eat roots, their minerals go up into my head. When I eat salad greens, their forces go to my chest, lungs, and heart - not their fats, but the forces from their fats. When I eat fruit, the protein from the fruit stays in the intestines. And the protein from animal substances goes beyond the intestines into the body; animal protein spreads out. One might think, therefore, that if a person eats plenty of protein, he will be a well-nourished individual. This has led to the fact in this materialistic age that people who had studied medicine were recommending excessive amounts of protein for the average diet. They maintained that 120 — 150 grams of protein were necessary — which was ridiculous. Today it is known that only a quarter of that amount is necessary.

Next read what he says happens to one who eats more protein than is necessary for one's body: it passes out through the intestines, yes, but while it remains in the intestines, it poisons the whole body. "One is often much better nourished if one eats less, because then one does not poison oneself."

[page 97] If one gulps down too much protein, it doesn't pass into the body at all, but into the faecal waste matter. Even so, the body does get something from it; before it passes out, it lies there in the intestines and becomes poisonous and poisons the whole body. That's what can happen from too much protein. And from this poisoning arteriosclerosis often results — so that many people get arteriosclerosis too early, simply from stuffing themselves with too much protein.

We need protein in our diet, especially protein that is not very easy to digest, but like the protein in fruit which will assist our digestion. One of the reasons, no doubt, that eggs are so universal for breakfast is that

the protein in eggs is easy for our newly awakened digestive system to handle. But a continuous diet of such easy-to-digest protein would create a sluggish digestion. (Paraphrase of pages 101, 102.)

Just as it is important for us to consider the right forms of nutrition for our bodies, the plants we grow to eat also require proper nutrition. How do we ensure that our plants are receiving proper nutrition and not some one-sided feeding which will neither nourish the plant, nor the consumer of the plant's roots, leaves, flowers, and fruit? The answer to that question led Steiner to formulate a technique of feeding plants that has come to be known as Biodynamic farming and gardening. Biodynamic farming takes organic gardening one step further by providing life-giving ingredients to the soil in which the plants are grown. If you're curious about how to go about this, a quick search of the Internet will provide references of products to begin treating your garden. We've found the Biodynamic Barrel Compost to be the easiest to treat our garden with and are very happy with the results.

What about fertilizers? Fertilizers, natural fertilizers, such as manure are recommended as part of the Biodynamic practices, but mineral fertilizers are a definite no-no. Why?

[page 102] And you can see, gentlemen, when one uses artificial mineral fertilizer, it as if one just put minerals into the ground; then only the root becomes strong. Then we get from the plants the substance that helps build up our bones. But we don't get a proper protein from the plants. And the plants, our grains, have suffered from lack of protein for a long time. The lack will become greater and greater unless people return to proper manuring.

Steiner tells us about prisoners who are under fed and develop a fat-craving to such an extent that they would jump at any wax that fell from a guard's candle and eat it immediately. You can read about Farley Mowat's fat-craving experience in his wonderful book, "Never Cry Wolf." He is studying the diet of the Arctic wolf who seems to be eating only mice in the winter, not reindeer. He decides to confirm that it's possible to live only on mice and goes on a mice only diet. He develops an enormous fat-craving. Finally he realizes that he had been discarding the guts of the mice before eating them, but the wolf didn't. Making that correction, he found he could live off of mice quite well with no problems.

Steiner says that someone with good lungs is not going to go into a room and throw open the windows and say, "Let's get some fresh air in here!" but rather will be able to endure any sort of air. He also attributes the prevalence of tuberculosis to people living on a diet of mostly potatoes, and says that when one "has lost his instinct for nutrition," he will likely develop diabetes. The next claim will cheer the hearts of those who have hay fever, as it did me and no doubt the man in his audience who asked the question.

[page 107] For instance, you suffer somewhat, or have suffered (I hope it will be completely cured), from hay fever. ... No one who is predisposed to arteriosclerosis in his entire body can possibly suffer an attack of hay fever. For hay fever is the exact opposite of arteriosclerosis. Now you suffer from hay fever. . . . Your hay fever . . . the tendency to have it . . . is a kind of safety-valve against arteriosclerosis.

A human baby is helpless to feed itself and will die if it doesn't receive its mother's milk or a suitable alternative. It will also die if it doesn't receive strokes, isn't spoken to, lacks being held and kept warm and sheltered from the elements. Not so with chickens. Why is this? Aren't humans the highest form of earthly life? Then why is it lower animals can fend for themselves at birth and we can't? Steiner tells us it has to do with the very fact that we are the highest form of earthly life — we can think, and thinking requires post-birth development and start-up of our sense organs. And a lot of this must happen before we can fend for ourselves.

[page 142, 143] You can easily understand this; just think of a chicken. It slips out of the shell and at once it can take care of its own needs; it can scratch about for its food straight away. Think of the human infant in comparison! The animal can do everything. Why? Because the organs of its brain have not yet been metamorphosed into organs of

thinking. When a human being is born, his brain has to acquire mastery over these blunted remains of sense organs. And so a child has to learn, while the animal doesn't need to learn, for it knows everything from the start.

Have you noticed how men are portrayed on TV as klutzes these days? I never knew any men like that when I was a child growing up. My father and his dozen or so brothers-in-law, my uncles, were all very competent and skillful men. My father built two houses and several additions. He assisted my sister and my brother in the building of their houses. When he built something, you knew it was right. It was done right. No klutz could do that — they would give up before finishing a big job; my dad never did. He worked with his hands and taught me how to work with my hands. Maybe the klutzes on TV had dads who worked in an office all day and developed their minds instead of their hands and that's how they never learned to be skillful with their hands or construction projects. And maybe after a long day in the office, while my family was eating beans and rice, those office dads came home to a big supper of meat and potatoes every night. As a result I can not only thread a needle and sew on a shirt button, but also write a book.

[page 143] Human beings, having onesidedly developed only their brain, can think with great subtlety but are terribly clumsy fellows. It is important for the human being that not too much of his brain should be transformed. If too much has been transformed, he may be a good poet but he will certainly not be a good mechanic. He will have no knack for doing things in the outside world.

This state of things is connected with what I was talking about the other day, when I said that many people, owing to excessive consumption of potatoes, have transformed a very large part of their brain. The result is that such people are clever but unskillful. That is so often true today. They have to struggle to do things that they should really be able to do quite easily. For instance, there are people who are quite unable to sew on a trouser-button. They are able to write a marvelously good book, but they are incapable of sewing on a button! This is because the nerves which are nerves of perception in the more delicate organs have been transformed almost entirely into brain-nerves.

Steiner tells us that the transit of Venus across the face of the Sun takes place every hundred years or so and that the next transit will happen in 2004, this year. It is supposed to somehow exercise an influence on the weather, which should be interesting to observe. The Hundred Years' Calendar was actually created as a result of this observation of the influence of Venus on the weather.

How does lightning get created in the sky? One can observe that rain is normally accompanied by lightning. I've heard that it is always accompanied by lightning from those who have observed a lot of rain and lightning. I also know as Steiner does that in the presence of water or water vapor, electrostatic charges will dissipate quickly. That makes it a little difficult to figure out how it's possible for large charges of electricity to build up in the sky when rain drops are falling.

When I was in college, I found an article in Scientific American that described an electrostatic generator that was powered by falling drops of water. Hmm, I thought, maybe that explains how rain can create lightning. So I obtained the materials and made myself such a generator. When it was operating, sure enough, water drops fell through two juice tins and a voltage upwards of 5,000 volts developed across the wires connected to the cans. I estimated that to be the voltage by the length of the spark which jumped across the air gap of a wire connecting the two cans. If I didn't allow the spark to discharge, soon the weight of the falling drop would become less than the electrostatic repulsion from the receiving can and the drops of water would fly away from the can. Raindrops have no place to "fly away from" so they must be transferring their charge continually to the air layer through which they are passing and the result is a huge charge is built up. Air is not a good conductor of electricity so it acts as an electrically insulating layer, thereby creating an atmospheric Leyden Jar. Soon the charge is so great that it creates a plasma in the air through which it can flow freely. The plasma path is filled with charged ions which create a bright white light which disappears as soon as the plasma discharge stops. These plasma discharges have historically

been called lightning or lightning bolts. Artificial lightning bolts have been created by Leyden Jars and various electrostatic generators, especially by Nicola Tesla who mastered the art of creating lightning.

Why I mention all this is by of prologue to saying that Steiner is all wet in this next passage where he claims that lightning cannot be caused by electrostatic generation of electricity.

[page 174] From this you can gather that electricity is conducted away by water and fluids. Everyone knows this, and naturally the scientists know it, for it is they who do the experiments. In spite of this, however, they declare that lightning comes out of the clouds — and clouds are certainly wet!

In the case of my water electrostatic generator, the base of the two receiving cans had to be completely dry, but obviously the inside of the cans and the water droplets themselves were very wet. I took great care to allow the spark to discharge before the droplets began spraying everywhere. But in the clouds above the Earth, droplets form in presence of moisture, and as they fall, the effect that laboratory experimenters try to avoid, namely, the dissipation of the charge into the air, is the *very thing* that leads to the formation of lightning discharges. Charge dissipation into the air creates a huge Leyden Jar between the sky and the ground and a discharge will ensue. And another and another so long as the Leyden Jar is recharged by falling droplets.

[page 181] I said that there is no question of lightning arising from some sort of friction of the clouds. Clouds, of course, are wet, and if you want to produce miniature lightning with laboratory apparatus, everything must first be wiped absolutely dry.

It is not easy for a new reader to approach Steiner's work with any comprehension. His books require intense work and meditation to absorb anything of value from them. Take a look at *An Outline of Occult Science*, if you want an example. When I first read this book, I wrote a [half page review](#). I was a new reader of Steiner's works, and I absorbed and digested what I could of the book, which wasn't much. When I returned to doing a comprehensive review about seven years later after I had studied Steiner much more, my [review](#) expanded into over one hundred pages. Same book, different me.

When I first read the book, I wondered what was all the fuss. Today I have little doubt that anthroposophy is essential knowledge for the future of humankind. Steiner discusses a similar dichotomy in the people in his audience between those who have just arrived there and those who have been there awhile and heard his talk many times before.

[page 198] It is obviously difficult to speak briefly about these matters. Those who have been here for a considerable time will have become more and more convinced that something like anthroposophy had to enter the evolution of humanity. Those who have not been here long will naturally have some difficulty and only gradually be able to understand.

What Steiner teaches us yet today in his lectures, if we endeavor to read and study them, is essential knowledge for human beings to have. In these Question & Answer sessions with the blue collar workers building the Goetheanum, he talks straight from the shoulder in the everyday talk of the workman. These were spontaneous talks driven by both the asked question presented on paper or verbally and from the unasked questions which Steiner picked up from their minds as he spoke. This is a phenomenal series of books which thankfully have been re-formatted into a unified series and published in paperback form.

As this is the last one in the series, and is also the last one for me to review, it is a good place for me to include links to the other books in the series. Each book has a title of the structure of "From X____ To X____" where X represents the first letter of a subject Steiner covered during a discussion session in the book. X = S for this book, "From Strawberries to Sunspots". If you find reading Steiner's books difficult and want a more accessible text, these books will fill the bill. There is no easy way to start reading Steiner — it's like entering a cold swimming pool. If you just dive in, the chill scares you out of the pool

immediately. If you enter slowly, your body must be able to acclimate itself to the temperature of the pool water. Either way it takes a serious exertion of will power to begin to make sense of Steiner's works. There is no *el camino real* to understanding Steiner.

But these books come close. Pull up a wooden crate, sit alongside the workmen, as Rudolf Steiner talks to you, not as Herr Doktor Steiner, but as another worker in the building, and explains to you why the Goetheanum is being built. This was the question from the workers which led to his beginning these discussions, "What is the purpose of this building we are working on?" The ultimate answer to this question cannot be given in the present — its answer must necessarily come in the distant future of humankind which will be made livable by the thoughts, ideas, and concepts that the good doctor will share with you in the pages of these marvelous and insightful books.

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