

LECTURE ONE - DR. K. KONIG

Morning, 15th October, 1943.

Ladies and Gentlemen,

You have asked me to talk about food, Nutrition and Digestion. It is nearly impossible to convey in three lectures anything which could give a fair idea about this complicated and very important: question. One could not even say everything if one would have the possibility to talk for two or three months, for the reason that we do not know very much about food, about nutrition, about digestion, and about the whole realm of human metabolism. Especially those doctors who have started to study Anthroposophical medicine, they are at the beginning. Ladies and gentlemen, do not expect too much, because what I am going to tell you are nothing else but a few starting, and perhaps startling facts.

But one has to begin, and. So I dare to address you in this conference, even if it is only to make a beginning. And we will have to work for hundreds of years, and many more people will have to work, to understand the secret and the hidden riddle of Nutrition, Digestion and Metabolism.

I will try to convey to you how Anthroposophy has taught us to see phenomena, because Rudolf Steiner once told us doctors in a very sincere way - "Your task is to study all that science has produced in these days, all that science has brought to light, because the greatest inspirations you can get are from studying an ordinary book of physiology, or anatomy, because science has put together all the phenomena you need to know, science has brought together all these facts, and this is a wonderful achievement. What we have to do is to bring together all these split up facts. Science has given actually the tools into our hands, but to gather together all these tools, and to model and to form the new interpretation of the human being, of the cosmic world, and everything around us - this is the new task. This, Anthroposophy has made possible for us. The tools are so distributed that it is absolutely impossible for one single human being to study them all. A lifetime is all too short, and our spiritual power is much too small to do this, but perhaps a few facts and points of view will lead you to understand how a Co-operation between doctors and farmers could start again in this new light which Anthroposophy can shed on the facts science has given us.

If you study nowadays, for instance, a book on nutrition written by a doctor or scientist - usually by a scientist, (doctors cannot write these books because they still understand a little bit about the human being!) you will find an enormous amount of information, numbers, tables, and so on. Having said all these things, it does not arrive at any real meaning, it just states the results of experiments; you can do nothing with it,

And if you study a book on the function of the whole intestinal tract, a book on the physiology of digestion, you will find that digestion still to-day is looked upon as a kind of action which is there to produce heat and substance for the human or animal organism. It is not long ago, as a matter of fact it is still so, that in most of these books on physiology, the human organism with regard to nutrition is looked upon as nothing else but a kind of stove, and food is the fuel to keep this stove going. Now science has already recognised the fact that the fuel and the stove are in some peculiar way connected with each other, because the fuel is able to build up the stove, and the stove, destroying the fuel, is built up by the same destructive process.

Let me describe, for instance, how butter and milk and meat change inside our digestive tract, and what foodstuffs have to go through, and how at last, in a certain kind of modification, they appear somewhere else in the organism.

I have studied many books on this question, but the more you read about it, the more you

realise that these facts of digestion are still entirely hidden.

For instance, we do not know, (and I do not mean a scientific hierarchy. I mean all of us): We do not know the actual way of metabolism of proteins which are in meat, and later on appear beyond the intestinal wall. How it goes throughout intestine and is there changed, is just guesswork, and not knowledge. Nobody, so far, has actually seen, can actually observe the mere facts. One thinks that food is split up chemically, is split up physically, and then changed into a very simple substance: it goes through the intestinal wall, is gathered by the lymph and enters the blood stream. It may be like this, but I think it is not. And no Scientist can disprove because he cannot prove the contrary with facts and experiments, and thus one must try to understand the whole question in another way. I would first of all like to come from a different direction and to start with some facts which I think are very well known to you.

I shall not start with the process of digestion. I shall start with a description of milk, and I would like to show you what a doctor could think about such a substance, so common to the farmer as milk should be to you all.

What is milk? You see we doctors have to be very interested in milk too, because milk is not only produced by cows, it is produced by many other animals, and also by Man, to feed our babies. Our mothers create milk, and milk with regard to the human being, is the only food which Mankind creates. All other food is produced by mother Nature, by mother Earth. Milk is produced by Man during a certain period, when one part of Man's kingdom comes into the state of motherhood. Suddenly, after a woman has given birth to her baby, this woman comes into a state in which the whole of Nature seems to create a substance, milk, within the human body.

During the whole year, food is produced outside the human body, but one particular food - milk - is produced by the human being during a certain period of his life. Milk is one of the most important foodstuffs we have. Without the milk of our mothers, we would hardly be able to live. Man shares this great possibility of producing milk with many other beings, for instance with all the mammals, who are also able to produce milk, and so to feed their new-born babies.

That we, in the Kingdom of Man, are able to produce food, what does it mean? It means that on the one hand, Man, during the period of production of milk, enters with his whole being, the realm of Nature. Or perhaps I should say - Woman enters the realm of Nature, stands within the realm of Nature as a creature producing food. But this food is produced for her own particular baby to whom she has given birth.

And what is milk?" You all know milk, as a white, opaque fluid, which tastes more or less sweet, and which contains a great amount of different substances. We know that milk contains sugar, protein, a certain amount of fatty substances, but that it also contains a great many other substances, for instance: manganese, copper, iron, magnesium, potassium, calcium. and so on. Nearly the whole realm of the World of substances appears within the milk. Here you can find the whole of Nature in one spot and in one substance gathered together.

Milk is a sweetly tasting, colloidal fluid; and where does milk come from? Well, no-one knows, one just knows that milk is produced in the milk glands, and that these milk (mammary) glands, by self-sacrifice of their own tissue, create or produce milk. It is not, when milk is produced, a mere creation of this fluid. It is so to speak, self sacrifice of the milk glands because all the cells of the tubules of the milk glands have to be destroyed, and by the destruction of those cells, milk is built up. Milk is, so to speak, the result of the sacrifice of a certain kind of tissue in the human or animal organism.

When as a doctor, you have the possibility to watch a woman who is pregnant, and to watch those wonderful changes that the whole organism is going through, you will understand

that the breasts are growing, and during this process of growth there is a great increase in the blood supply.

Hundreds of new blood vessels grow within the breasts around the milk glands, and in watching this sprouting life comes more and more to understand that blood is necessary to produce milk. That blood is, so to speak, the mother-substance out of which milk is produced. Just the other day, I read a paper which gave the following fact:

"You need a certain amount of blood supply to produce a certain amount of milk, and it is so that you need four times as much blood for the production of a certain amount of milk"

That means that you need four units of blood supply for the breast to produce one unit of milk. And you see already that here is a kind of relationship - blood to milk, which can remind you at once of another relationship which is of the same proportion, and this is the rhythm between heart-beat and breathing-process. For each inhalation and exhalation we have four heart beats. If you study this, milk at once can become related with the whole process of breathing. Take this, first of all, into consideration and now I would like to come from another direction, which again will lead us to a better understanding of the substance - Milk.

When Dr. Lehrs spoke yesterday evening, he reminded us of those beautiful words which Luke Howard wrote in his book about the forms of clouds. Luke Howard says, that we must look into the atmosphere and that we must relearn to understand the countenance of the atmosphere, of all what is going on in the atmosphere. This you see was right at Luke Howard's time. We still have not regained the possibility to read the countenance of the atmosphere around us. We still have to relearn what Luke Howard tried to learn in studying the cloud formations, and Goethe tried this too. In times gone by, people were not only able to read the countenance of the atmosphere, they were able to read what was behind its countenance; what made this countenance to appear like it did; what, so to speak, created the features of the clouds and the rain, and the thunder storm and everything which was around the earthly being.

It is now about twenty years ago that a lecture was given by Rudolf Steiner about the atmosphere as it was in the Lemurian Age and the Atlantean Epoch of our existence. It is a lecture which, I think, should be read and re-read by all farmers, because in this lecture without mentioning all the details, the whole secret of calcium and silica is revealed; - the whole secret of these two substances which are so very important to the farmers as well as to the doctors. I would like to try in a few words to repeat what Rudolf Steiner said there about the early Lemurian Epoch. He describes how the whole atmosphere in the early Lemurian Epoch was nothing else but a big, big cloud of protein. If a chemist of to-day would come and talk about this protein, this substance would not understand how a man could talk about carbon, Nitrogen, Hydrogen, or Oxygen, because all these substances did not exist but protein existed, and the whole atmosphere was filled with this cloud of protein, and this protein was warmed through by life.

But there were no elements - no Carbon, Nitrogen, Oxygen, Sulphur and Phosphorus, because they did not exist. What does this mean? It means (and this is a revelation) that the simple elements were not once upon a time jumping one on to another, and therefore these jumps have created more and more complicated molecules; that then suddenly through a very happy jump, the first living molecule was created and out of this living molecule the whole world of life has gradually developed. This is what science tells us to-day, but it is not true.

Protoplasm was there at first, the whole atmosphere was filled with a substance which was not a complicated one, but a simple one. Out of this very simple substance, all the very complicated elements developed through division. The unit was just simple protoplasm, filling the atmosphere of our early existence.

In the early Lemurian Epoch, the whole atmosphere of the earth was a big cloud, full of protoplasm, warmed through by life, by cosmic life. From the cosmos, like rain, silica was dropping in, not a silica which is hard, like granite, but which is like wax. It was dropping down. Light was there, and this light was reflected by the silica-wax, and with the light the 'world pictures were streaming down into the atmosphere, and these world pictures' were the first plants. They were not like our plants, shaped and formed out; these plants were just coloured movements, appearing and disappearing. The whole earth was still within the creation, and so it was not the time to create something which lasted; it was created and destroyed.

Rudolf Steiner tells us that not only this wax, this certain form of silica, dropped down from the cosmos into this albumin atmosphere of the earth. There was also lime, which rained down from the cosmic surroundings into the earth. And now he describes a very important phenomenon: he says - "As the rain is now coming down on earth and going up again, so during the Lemurian Epoch lime was raining downwards and evaporating upwards. There was a rain of lime substance: it was coming down and rising up. and it was a real stream of lime from the cosmic world down to earth, and from the earth up into the cosmos."

During this time, within the atmosphere of protein, certain other things happened. Parts of this albumin clouded together, and formed in this clotting process the first rather primitive animals. The lime penetrated these clotted drops of protein, these first and primitive animals, and formed in them the first very primitive parts of cartilage. These animals had the ability to extend one leg: and pull it back again: they had not a fixed and formed out shape. We are terribly Philistinian people if we think the animals around us are the right ones. They are the most sclerotic beings, because they are formed out. (What can you do with such animals?). But these early Lemurian forms were able to adapt themselves according to the atmosphere, where the lime rain could stream in and out; these were the true animals.

This is a picture of how the atmosphere of the early beginnings of our globe were built up; but what have I described Ladies and Gentlemen?..... You see, I have described nothing else but what you can still see. I have described to you - MILK.

If I had a glass of milk here, and you could watch the milk for twenty four hours, you could still follow up what once upon a time has happened in the early Lemurian Epoch. What then the atmosphere - the early cloud, has been is certainly a great deal smaller, but still here. And in milk you have the real picture of everything which once upon a time has been in the Creation. Therefore we have to feed our babies first of all with milk and we cannot feed them with anything else, because here you have the creation, and you renew not only the body, you renew something else.

If you would read some of Paracelsus' books, you would come across certain passages where he speaks about milk. He always calls milk with a very funny name.. He says it is the "Good Mummy". Against this "Good Mummy", he says, there stands another mummy of which every farmer and doctor should know. Against the "Good Mummy" of milk there stands the "Bad Mummy". This "Bad Mummy" is contained in all urine; so he speaks. What does he mean? One cannot state it unless we study, (it is so necessary to study facts) that which science has produced. Let me say this is the point where the birth takes place: we know that it takes ten months, or 280 days for the baby to be formed and 280 days 280 days shaped out, and now study how long the milk production of the mother goes on. It is exactly ten months, or 280 days. This is a very singular fact, that the length of time a baby needs to be shaped out - the same length of time the breasts of the mother have the power to create milk. And if you read in a contemporary of Goethe, in the book on Physiology by C.G. Carns, he says you can only understand the production of milk in a woman when you learn to understand that all the powers which have created the embryo, after

the birth, rise up into the breast and then create the milk, so that all the embryonic powers which were given to the mother from the cosmos now stream into the breast and build up the milk. When the baby drinks milk, this baby is drinking the Good Mummy - his cosmic mother. All the universal forces which have created the baby, now stream into the mother, and this the baby is drinking.

If you were able to follow up the process the milk creates in the baby, and if you listened very carefully, when the milk went into the baby's stomach and intestine, you could sometimes hear that the milk talks. And the milk says: "Come.....come... come...." It calls down the spiritual being of the baby. Only the milk can do it so gently and so kindly that the soul of the baby responds, and grows in this nine months of breastfeeding into the baby.

I do not mean that one should breast feed the baby entirely and only up to the ninth month. One should already start when the baby is six months to give some other food, and should increase this more and more until the child is definitely weaned by nine months. Only in primitive societies of a tribal state are children breastfed up to three years. It is not good for those who want to produce a child with a clear mind.

We had a child in our schools who was very slow in his whole development. and I was able to trace it back to the fact that the child had been breast-fed for too long a period. In the animals when breast feeding is left out, the loss is not to the mind but to the body.

When a baby does not get its mother's milk, but cows milk and other food, the soul is not called down gently, but dragged down too violently. These forces entering the body are not able to settle down properly and the baby becomes thin and weak. I am not going to speak now about human milk and cow's milk, but I would like to say a little bit about the substances of milk, so that you can see how similar milk is to blood.

Blood is red and milk is white, but both are opaque. The reason for this is their colloidal state. All the blood cells are suspended in the blood serum., and all the tiny little fat particles are suspended in the milk.

If you now take all the blood corpuscles out, you have the blood serum. Take out from the milk all the fat particles you have a serum too. Study both serums and you find that both are nearly the same; they are made of the same substances. Both serums have a protein - in milk the caseinogen, in blood the fibrinogen. Through fibrinogen the blood clots. Through caseinogen the milk clots. You have then in the blood a certain amount of globulins, and albumins, and one finds the same globulins and albumins in the milk serum.

What does all this mean ? I would say that the only difference between blood and milk is in the nature of these tiny little particles, which make blood and milk opaque. The blood corpuscles in the blood and the fat corpuscles in the milk, and especially the red corpuscles in the blood and the fat corpuscles in the milk, they are the same. From the biological point of view they are really the same, for in the milk a state is reached which can only be found in the most early stages of human embryology.

If you study human embryology, you will find that about 14, 15 or 16 days after fertilisation, the yolk-sac is built up. and within the yolk-sac you find the yolk substance, which is not very well studied, because one cannot get hold of many young embryos.

As a matter of fact, the yolk-sac is there, and inside this 'yolk-sac' is a beautiful golden fluid, which is called the yolk. If the light streams on it, the yolk substance is destroyed this fatty yolk substance

In the milk, yolk appears now, not before but after the embryonic development. It appears

in this way, that it is newly created out of the blood, and you should see the following cycle: In the old Lemurian Epoch there was milk, and we were all living as spiritual beings in this milk-state. besides the animals and plants which were just becoming physical. We were all living inside this "World milk". Then we came nearer and nearer to earthly life: we incarnated more and more, and as, so to speak, a self defence against this milk of the gods, we created our own "Personal milk". And this "Personal milk" - this sinful milk, which has to be redeemed - this is our blood.

Nature, at certain moments redeems again and again this blood by recreating in the mother's breast the real milk, which corresponds to the World milk of the Lemurian Epoch.

Now study the cloud formations; study Cirrus, Cumulus, Stratus, and Nimbus, and study the milk in your bottles. You will find that the Cirrus is the skin the milk builds, and the Cumulus is the fat which turns into butter. Stratus is nothing else but the caseinogen, and the Nimbus is the whey. You will have to look at the clouds to see whether your milk will keep - whether the bacilli are coming in, or not.

You see in this way one has to learn again to see a substance, because milk does not consist of Carbon, Hydrogen, Oxygen and so on. Milk only consists of one thing, and that is... milk. But to study milk does not mean to study all the parts. To study milk means to study cheese, butter, whey, milking, atmospheric influences, and so on, because then you can understand milk.

One should write again a Song on Milk, because you cannot imagine what a beautiful substance it is. It is really the Song of the whole Creation. It is not the minerals, salts, fats and so on which make the baby grow better when it is breastfed; the whole creation is streaming into the baby's body in the milk, and this makes the baby grow.

Let me read to you what a modern scientist says in a book on human physiology (Starlings: "Principles of Human Physiology, 1942. page 1196): - "We know. very little about the mechanism of milk secretion. It seems impossible at present to explain the very close adaptation between the activity of the secretory cells. and the needs of the infant or young animal".

To see these needs again, may help the farmer, if he can realize it. I will just give you one instance. There is an old tale told by the shepherds of Australia. They tell you that the kangaroos do not come out of the womb of their mother, but that the kangaroos bud on the teats of their mother. Now the scientists were very startled by this idea, and they went to investigate those very interesting animals - the kangaroos, and they found out the following thing. The kangaroos produce the embryos within the womb, but those embryos grow only as big as an inch within the womb. When they are born, the mother goes down with her lips and takes them up and puts them into her pouch, and in this pouch they press the lips of the little ones on to the teats, and the lips are the biggest organ of the embryos. The lips then grow around the teats; they form a kind of placenta, and for six months the embryos hang suspended to the teats, while they grow to maturity. And what does the milk do? Imagine these are the lips, and continually milk drops down from the teats into the mouth of the babies. These drops of milk form a kind of living naval cord between mother and child!

This is what a doctor should know, but perhaps the farmer may' listen to such thoughts also.

End of First Lecture

Notes of the Discussion Period: Question: If the baby dies, what has to be done to the mother ?

Answer: You can easily give a certain medicine to lead the milkproducing process through the kidneys outwards. Some kinds of herbs can do it.

Blood contains Iron, milk contains Magnesium, Magnesium is the cosmic counterpart of Iron. It is significant that only in meteor stones can one find pure Magnesium. It is not found in the earth except where these meteors have fallen.

Question: What happens when milk is pasteurised ?

Answer: You take the Good Mummy away from the cow's milk when you pasteurise it, and then there comes the Bad Mummy.

The cow is a special animal within the creation. All the measures of the cosmos are the same in the cow. When you drink the etheric forms of the cow's milk you drink the power of the cosmos. When you pasteurise milk, you destroy these forces.

Question: Does it hurt milk to freeze it ?

Answer: Yes I am sure it does, you destroy the form of the etheric forces. The fat is then surrounded by cascinoen, and then you have the whole composition of milk altered.

Milk diet is good for ulcerations.

Questions were asked about the use of Mistletoe, and about plant milk as compared with animal milk.

Answers: We use mistletoe against Cancer. All the plant milks have a certain connection with this milk - they act more through the liver. The liver is the only place where fibrinogen and caseinogen are produced.

Question was asked about the use of Iodine to stimulate milk production in cows.

Answer: Milk was once robbed from Iodine. If you now feed Cows with thyroid gland you have the best possibility to stir up milk production for a certain time, then the cow dies. What Iodine does in a short period the oil cakes do in a longer period. The "licks" are effective because they contain iodine.

Lord Glentanar; I can speak from my own experience of this subject, as I am very guilty in the use of such things. For years I won prizes - many cups, etc. for high milk yield - and all my cows died.

A conversation followed on the shortage of Iodine in South America, and its effects on cows and breeding.

Mr. Duffy (Asked what things should be fed to breeding animals) In those times it is very difficult to food properly as all grain is wanted by the government, but one should reserve as much as possible, even if it is only tailings of wheat for the breeding animals. One way is to grow a mixture of Oats, Barley and Peas. You are allowed to feed this to stock. Silage is bad in very large quantities. Keep silage for fattening animals - bullocks, etc.

Dr. Konig: Yes, to-day we keep our animals in dark stables. And we feed them with food that has been kept in the dark (silage). thus keep the cows from the forces of light.

Mr Duffy: One of the most amazing medicaments is Silica D7.

When I say that we have never lost a cow, I do not mean that we have never been in danger of losing one, but by the use of the biological medicaments from the Present Age company which has been making them since the Weleda company stopped making them owing to wartime difficulties.

LECTURE TWO - DR. K. K O N I G

Evening, 15th October, 1943.

Ladies and Gentlemen,

This morning we have tried to understand a little bit what milk is, and I hope you could see how an archetypal phenomenon like milk can really lead not only into an understanding of Nature; it can really lead us into the realm of evolution, and the creation of Earth and Man. I was following these facts, simply trying to interpret facts. One could really grow up to an understanding which, at least to me, is very interesting.

Now you see I have chosen the subject milk this morning, because - well, you are farmers and you will be accustomed with a substance, with a biological unit like milk, and tonight I will try again to talk about this substance milk, but from a different angle, and from a different point of view. I would like to talk about digestion, and at last we will have to see that it is nothing else again but to understand from a certain point of view, the unit, milk.

Most of you know the last lecture of the series of Agricultural Lectures which Rudolf Steiner gave in 1924, and in this eighth lecture, Rudolf Steiner speaks, and I think it is for the first time, about the human brain, and he reveals in this lecture that there is a very important connection, or, better to say, a deep connection between the brain on the one hand, and the dung or faeces on the other. A very startling revelation. So startling that Rudolf Steiner then says that you will be a little bit puzzled that the brain is nothing else than a kind of dung formation.

Now you say: What does it mean? It is possible step by step to understand that the brain is, so to speak, a kind of dung formation - to understand this for my part as a doctor, to understand this for the human being and the animals.

Rudolf Steiner, long before he gave this series of lectures to farmers, gave a series of lectures to doctors, and he revealed another startling fact, which I think one has to bring together with the one fact Rudolf Steiner mentioned in the Agriculture Course. He says the following thing: "If you study for instance the large intestine and the small intestine, through the whole evolution of the animal kingdom, especially in the realm of the vertebrate animals, then you will find that there is a certain relationship between the formation of the intestine and the surface of the brain, the cerebral cortex".

This he says, among many other things, but I was caught by this remark. I read it in 1926 or 1927, but after I had read this one remark, I thought, is it not possible to find already some facts to prove this statement which Rudolf Steiner has made? A year afterwards I found a paper published in 1927 in the Archive of Anatomy. This paper deals with the connection between the intestinal and the cerebral structure in Man and animals. And there one finds again the astonishing fact of correspondence between brain and intestine. It is summed up in the last passages. A well known professor of anatomy, he is a sheer and pure scientist, and he was studying facts, and he took his conclusions from the facts and not from some hypothesis, whether this hypothesis is the Darwinian, or any other hypothesis. He says: "Between the number of intestinal convolutions and the number of cerebral convolutions there exists a strange kind of parallelism. It is a never more to be contested fact that the surface of the brain has the more convolutions, the bigger the number of the intestinal convolutions is. From Didelphys onwards up to Man the cerebral cortex grows more and more complicated; this cannot be doubted. But a phylogenetic development cannot be traced."

The tree of evolution cannot be found in studying the different brains as far as the vertebrates go. One finds, studying the mere facts, that the amount of convolutions in the intestine and the amount of convolutions in the brain are corresponding. If you can find this in

many of the vertebrates, there must be some reason.

Now take this fact, and the remark of Rudolf Steiner. They seem to be related with brain and dung. the function of the intestine and the convolutions of the brain keep a kind of equilibrium to each other. What does it mean? Turn to human physiology, and study the faeces. study what the faeces are made of, where faeces come from, and you more and more will find a very interesting and startling fact. The more you study, the more startling this fact becomes. No layman knows it: very few doctors know it, but we all should know it, and learn to know it again and again.

The faeces have nothing to do whatever with the intake of our food, because whether we take food or starve, it does not make any difference to the amount or the content of the faeces. A man starving for ten, twelve, fourteen or sixteen days has the same amount of faeces every day as the man who is eating. This is startling fact. You are never asked anything about faeces in the examinations. You do not study it as a student, and never as a doctor but you can read it in Starling's "Principles of Human Physiology." Starling writes: In man or the carnivores absorption of the constituents of a meal is practically complete by the time that the food has arrived at the lower ileum. The faeces are, in the main, not derived from the food but are produced almost entirely in the alimentary canal itself. This is shown by the fact that on analysing the faeces, No soluble carbohydrates or proteins, albumoses, peptones or amino-acids are to be found. After a meal of meat, microscopical examination of the faeces reveals no trace of striated muscle-fibres. Moreover, animals in a state of complete starvation, form faeces which do not differ in their composition from faeces which are formed after feeding, though the amount is less."

In one experiment, Hermann isolated a loop of gut, joining its ends together so that a continuous ring was formed. The continuity of the gut, was then restored by suturing the two free ends. After some weeks. the isolated loop was found to contain a semi-solid material similar to faeces. This is a very important experiment.

Here I will give the proportions of the constituents of faeces:

Water 65 - 67%

Nitrogen 5 - 9%

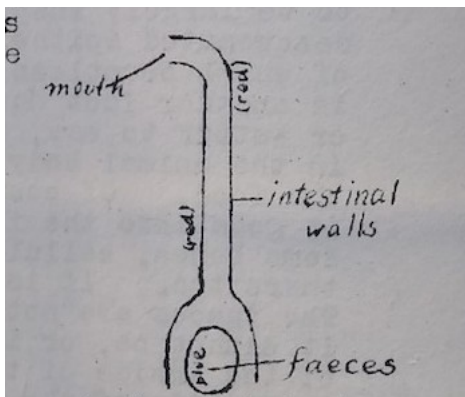
Ether Extract 12

Ash 11 - 22%

Starling writes: "*The material basis of the faeces seems to be largely inspissated mucus, bile and other secretions, desquamated epithelial cells from the intestinal wall, and bacteria, of which countless numbers, chiefly dead, are present.*" Now this is another fact which we should know - that the dung more or less, or better to say, that the production of the dung in the human and in the animal body has nearly nothing or not very much to do with the food. Of course, if indigestible material comes into the gut. it goes into the faeces and we certainly excrete with the faeces some bones, cellulose, etc. This stuff is something which is just there too. It is not faeces, it is a small part of the faeces, The faeces are not formed by food. What are they formed by? It cannot be, or it should not be, anything else but some production of the inside of the intestine, of the whole gut. But what is the inner side of the intestine? When you study the hundreds of experiments which have been done with regard to digestion and metabolism, you will find that we are only able to digest food because the intestine produces a tremendous amount of the so-called intestinal juices. An intestinal juice is produced in the mouth, in the stomach, in the duodenal part, and in the small intestine, as well as in the large intestine. In the whole of the intestinal tract there are millions of very tiny little glands, and these little glands at once, after the intake of food start to create this intestinal juice.

Now you must imagine, that at the moment you take food, if you are hungry, or even if you only see a nicely laid table. if you smell some thing nice, then the whole intestinal tract starts to produce this juice. This juice is one of the most important secretions our body produces because only through the production of this juice are we able to digest. "To digest" is a word. but what does it mean? What really is done to the food when we digest?. If you take milk, for instance, but not by mouth in drinking, but put milk into a syringe and inject it, put it directly into the blood stream: What happens ? We start to develop a very high temperature. We even use milk to raise temperatures.

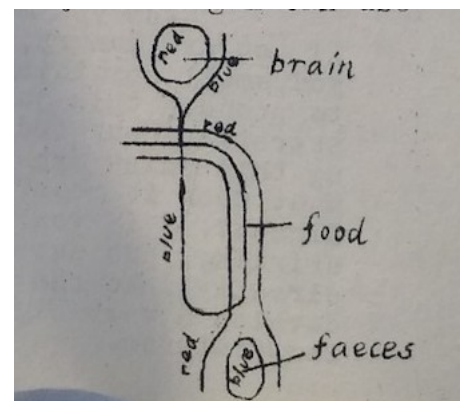
The moment we administer milk directly to the blood stream, we ourselves as a biological unit have to fight the other biological unit which we have taken in. We start to fight rather violently, and the symptom of this fight is the temperature, and the amount of heat we develop destroys the milk. After this is done, our own biological unit is itself alright again. But you must learn to understand that any kind of food we take is poison to the human biological unit. It is poison because it is alien to us, and digestion means nothing else but to destroy our enemies. We have to put these alien substances into physically and chemically simple pieces, and only after they are nearly completely destroyed, are we ourselves again. You know how difficult it is to be clear-minded after a heavy meal. This is nothing else but the expression we are engaged in the fight against our enemy - food, and we have for instance no possibility to solve a difficult problem after a heavy meal. This one must learn more to understand that digestion is a fight against alien units, whether they are cabbages, or pork or sugar, they are all alien to us, and this fight is done by the intestinal juice, and this intestinal juice is the real means by which our biological unit is destroying the alien foodstuffs.



What does this mean altogether? Imagine that this: (drawing on blackboard) would be our mouth, and here we take food in, and come down more and more to the walls of the small intestine. As soon as we take food we start to produce this juice; we produce it already in our mouth, by the salivary glands, then in the stomach, and then in the duodenum, and then in the small intestine. Faeces are nothing but the product of the different juices of the intestinal tract. This juice, whether it comes from the pancreas, liver, or from anywhere else to the intestinal wall, and most of what is contained in this juice, is then excreted.

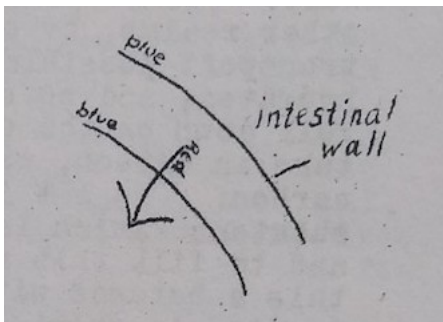
This is very worthwhile to know, but first of all please perhaps just start to be accustomed to this theory that the faeces are nothing else but the product of the intestinal juice. They have nothing to do with our food.

And now take another of Rudolf Steiner's statements. He speaks in a very clear way about the structure of our brain, and he calls it the only organ in our body which is really, in regard to its substance, built up by the food we take in. Everything else - our muscles, our bones, all the organs are not at all built up by the substance we eat as our food. Only one organ can use these substances, and that is the brain. I may make the following drawing:



You have here the food, represented by a blue line, and forming the brain. And we can say: "The faeces of our food is the brain". The actual faeces are formed. We have the intake of substance and something drops out and this is the brain. You see these two substances, the brain and faeces, they should

have a certain connection. How is it now possible that this stream of food reaches the brain? How it is possible, no one knows. One has some ideas about it; Science as well as Anthroposophy. Considering facts and experiments and conclusions out of experiments, one could say nowadays, the wall of the intestinal tract, of the small as well as the large intestine, is the threshold through which nothing can pass in this direction. It seems to be not possible, when the intestine is in a healthy condition, that any kind of substance is able to pass through the intestine. When you study a little bit the histological structure of the wall of the intestine, you find thousands and thousands of villi, into the inside of the intestine, these tiny little villi are reaching. To-day in science, one thinks the following thing: the food which is taken in, which is disrupted and destroyed by the intestinal juice, (and this juice is produced in these millions of intestinal glands) that the food through the action of these villi, is absorbed, goes through the intestinal wall, and enters the lymph vessels. With the lymph stream it reaches the blood stream. The food inside the intestinal wall is called chyme, and beyond it one calls it chyle.



Now think again of a natural process. These villi float in the intestinal juice, mingled and mixed together with the whole substances, into which all the food is turned. What do the villi actually do? They perform a kind of sucking process; they suck the chyme. Have you ever seen a baby sucking at the mother's breast, or a calf at the udder of a cow (the wall of the intestine is like thousands and millions of little udders)? Does now the udder take some thing from the calf, or the calf from the udder?. The idea of science to-

day, in regard to these villi in the intestines, is as if, so to say, that the udder is sucking from the calf. This certainly does not happen. But the question is: By what way is the food taken out of the intestine? The problem is: How is it possible that food which is taken in goes through the intestinal wall, and if so, does it go through the intestinal wall at all?

You see, if you study the lymph behind the intestinal - walls, the blood stream after the intake of a meal, you find that no protein is found. There is no increase of protein, no increase of sugar, no increase of carbo-hydrates in the lymph and bloodstream around the intestinal wall. You can study this in animals as well as in man. Only one substance is there found in increased quantity, and this is fat. There is nothing of protein, or carbohydrates; but one has found in these villi No fatty globuli. One has studied microscopically the wall of the intestine hundreds and thousands of times - never was any drop of fat found, but behind there was fat, and in front there was fat - and everything else.

Now if one is not a professor of physiology, but has so far kept to be a normal human being, one can have a certain idea: Here is something which cannot be found in between the wall. How did it come from the one to the other side? Maybe there is a way of transport we still do not know - we still cannot think of it? There must be a kind of transport which works, and which I can only describe in the following way: **MATTER IS ENTIRELY DISSOLVED INSIDE THE INTESTINAL TRACT, AND IS NEWLY CREATED ON THE OTHER SIDE OF THE INTESTINAL TRACT**, and thus the intestinal wall forms a real wall. There is no way in the three dimensional space, but by other realms, by other dimensions, there is certainly a way of transport possible. For instance, each substance - sugar, carbohydrates, and so on, are taken up into an etheric condition, and fall down on the other side in a physical condition. When we take in carbon, we have to destroy the living substance of the carbon. To eat it means to dissolve the carbon into a very simple substance which is left: We now have to take this substance again and to fill this substance with our own etheric forces; to penetrate this substance with our own living etheric body, and this process is done in raising the substance up on the one side, and lowering it down on the other side of the intestinal

wall. You have to climb over a wall to understand what is done to the food from within to without the intestine. That the food has to climb a wall means to grow from a physical stage into an etheric stage and down to the physical stage again.

Beyond the wall of the intestine, the lymph-stream is filled again with the fatty substances, they go up to feed the brain, but they do not feed anything else in our body. Our brain is formed out of the substance which has become our own substance just because it is beyond the intestine. This is also now substance of our own biological unit – Man.

You see, I spoke about milk, and I told you something this morning about the unit milk, but it is from milk that two products are derived; the one is butter and the other is cheese. I have nothing to tell you about the making of butter and cheese. You certainly know that much better than I do. But take cheese again, and study this unit - this biological unit. What is it? When you eat butter and when you eat cheese, you have quite different sensations. You have quite different experiences although both substances derive from milk. On the one hand through a more or less quiet process the fatty substances of the milk gather together and clot through a certain rhythmical movement applied to it; at the end we have butter, and out flows the 'serum of the milk. Butter is the compound of all those fatty drops which make the milk to be an opaque fluid; the serum flows away. With cheese it is different. To make cheese you must apply a substance which derives out of the stomach of animals - rennet. You have to apply something which is a part of the intestinal juice, and this special part of the intestinal juice works on certain proteins, and the casein clots together, and this process the casein undergoes takes the particles of fat with it, and so cheese derives with more or less fat. Casein in milk is the same substance which in our blood is fibrinogen.

And this caseinogen substance is taken out of the milk through applying a part of the intestinal juice.

Now what I am going to say, I think is correct, but you can take it as an hypothesis. Look at this again: the intaken food mingles and mixed with the juice of the intestinal tract. This intestinal mixture - this too is milk and nothing else, and if you see it and if you hold it in your hands you feel that it is milk, which is created at this moment when Nature-food and human intestinal juice are mixing together. Two worlds are mixed; the world of Man by the juice of the intestinal tract, and the food which we take out of Nature's own realm. This milk undergoes within our own body the same two processes that occur when we make cheese and butter out of usual milk.

Our brain consists of nothing else but of fatty substances, and do you remember (I do not know whether it is the same in this country) years and years ago, when I still was a boy, the farmers brought their butter to Vienna and each piece was formed like a walnut, and it was wonderful to see how it looked in this shape. It was in the form of a walnut, and I still can see it, and I still can remember what I felt when I saw this butter. I had the same feeling when later reading in Strindberg's "Blaubuch" the relation between the walnut and the brain. Strindberg could very intimately describe the connection of the walnut and the brain. The formation of our brain in the way the Rudolf Steiner has defined it, is nothing but butter made out of the intestinal juice plus food, and faeces are nothing else than cheese. In past times you could eat a very wonderful cheese, you could smell the connection between faeces and cheese, but it tasted very, very good.

But study these things from the side of taste and smell, and get the sensation, and you will learn to understand them. You have not only milk produced in the breasts, you have milk produced in the small intestine, and this milk goes further and you will understand why Rudolf Steiner says that the brain is a kind of faeces in which the whole construction did not come to an end. Cheese and butter, faeces and brain, they both derive from this nutritional stream. We will

speaking about the cosmic-nutrition scheme tomorrow, and this will then be the third lecture.

End of Second Lecture

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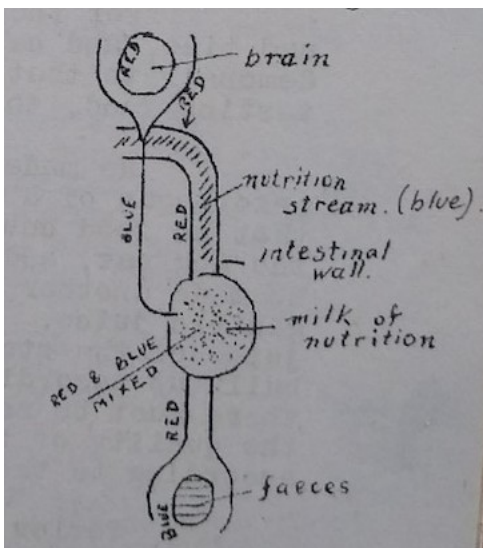
LECTURE THREE - DR. K. KONIG

Afternoon. 17th October, 1943.

Ladies and Gentlemen,

On Friday evening I ventured, and I hope not completely in vain, to speak about the so-called Nutritional Stream, and I have tried to show you that one has to consider that the intestinal wall, in man especially, (not so completely in animals) is a real threshold, and that hardly any food, whether destroyed or not destroyed is going through this intestinal wall.

The whole process of digestion and metabolism can be thought of in this way, that on the one side food is broken down more or less completely, and on the other side, beyond the intestinal wall, the food is again rebuilt, but rebuilt from quite a different source: rebuilt from the etheric forces down into the physical substance.



I have also tried to show to you that on the one hand the faeces, and on the other hand the brain, are the outcome of this whole process, and to remind us all again, I repeat these drawings which I made. Here is the nutrition stream, and there dissolved into the milk of digestion, and here is beyond the intestinal wall, the substantial stream of nutrition, to be built up into the fatty substance which is going to nourish the brain. We indicate this here: On the other side, we speak about gastric and intestinal juice, and how this juice is really breaking down all the fatty and other substances, and together with the broken down and dissolving food is forming this intestinal milk, the milk of nutrition. The result, and now I mean the physical result of this intestinal juice is the faeces, and we have seen two

formations come into existence which are very similar to each other. The one is the faeces, which we compared to cheese made out of this milk or nutrition, and on the other hand the brain - the butter out of this milk of nutrition. And then a discussion started, and we could see how difficult it is to grasp these things to understand them to learn to understand that for instance faeces have little to do with the intake of food, but that on the other hand, the brain has a lot to do with the actual and physical intake of food.

The faeces are just the result of this gastric and intestinal juice, and there are hardly any other sources in making up the faeces.

There is now one more question, and this is: Where does this special and peculiar intestinal juice come from? We know that the intestinal juice is secreted by the glands which line the wall of the large and small intestine. but what makes this JUICE flow? Why does it flow? Is there anything known about this juice ?

Here I have to mention the name of a very great scientist, who really broke the first hole into the stubborn minds of physiologists, showing that digestion and metabolism are much more

connected with the whole of the human being than anybody before in the world of science had thought, and this man is the Russian physiologist, Ivan Petrovich Pavlov. He died a very old man in 1936. In the first part of his life he undertook thousands of the most ingenious experiments to show that the flow of the intestinal and gastric juice is not only some thing which takes place like any other reaction in our body, but that this flow of the intestinal juice is brought about even without the presence of food. Professor Pavlov could show by his experiments that a most intelligent, clever and wise mind is working in our body, because these intestinal and gastric juices, and even the secretions of the salivary glands, are exactly, and to the point of the eye, fitted to the kind of food we eat. It is so, for instance, that already the salivary glands excrete a substance which accords exactly to the "what" we eat: whether it is meat, sweet, savoury, etc., the composition of the juice is entirely adapted to the food we take in.

For these experiments Pavlov fed thousands of dogs, cats and mice, and he could always show this. He could, for instance, demonstrate that even in seeing food and not in eating, or merely tasting food, the whole intestinal tract secretes its juice.

He made the following experiments: He cut through the oesophagus of a dog and stitched the upper end into the skin, so that no food could ever reach the stomach. Then he started to let the dog eat, and the food came out of the hole in the oesophagus. He made another operation on this dog to get hold of the excreted gastric juice. Although no kind of food reached the stomach, the juice of the stomach and the juice of the intestine were exactly built up according to the substance devoured by the dog. You see there must be something very wise, which is able not only to judge the quality of the food, but to build up the excreted juices according to the qualities of the food.

Pavlov speaks about nerves. reflexes and so on; these are theories. What we can see are facts which we can describe in the following way:- all the big and smaller glands in our body – the pancreas, the bile, and the glands which line the wall intestine, they form a kind of very, very intelligent, judge and every kind of food we take in is judged by these chemists, or alchemists which live in these glands.

The food is judged to the last bit according to its amount, and according to its quality. According to this judgment, the chemical and biological qualities of the excretions of all the intestinal glands are built up and flow down. Now imagine what it means that we, completely subconsciously, completely in the dark for our senses, carry something, one can call a judge - name it what you will - but one must know that some thing is there, and this "something" is judging the food, and according to this judgment, this judge will at once release the gastric juice.

Pavlov could show that our sense organs too are connected with the intake of food. He made the following experiments. He trained dogs only to eat when a bell was ringing, or certain colours appeared in the room where they were kept. After the dogs had been trained, just the ringing of the bell made the gastric juice flow, even without the food being given. This shows that even something that enters our sense organs, a sound, a certain colour, a certain smell, is able to cause the gastric juices to flow. This is very important, but not for making up new hypotheses as Pavlov has done, but to see the striking facts and to learn to know that our whole organism is so very much connected with our digestion. We cannot understand what nutrition means if we do not learn to consider these facts,

On the one hand you have all these experiments of Pavlov. But there is another fact which stirred up people's minds very much in the twenties of this century. And this was not a scientific experiment, but a religious experiment which could be watched by nearly everybody who wanted to watch it. This experiment was displayed in a woman of Bavaria, by the so-called Teresa of

Konnersreuth. She was a farmer's daughter in a very small village in Bavaria, and she developed "visions" about Christ; visions about the life and death of Christ. She was able to recall these visions, and she was even stigmatised.

After she had had these visions for a certain time, she started to starve because she could not bear any more food, and she was completely starving. The only food she took was the Holy Host each Sunday. She did not grow weak by this starving: she even did a certain amount of ordinary housework, and some work on the land. She had normal faeces, and she passed water several times a day, yet she took no food whatsoever, and no water or fluid. This was not a swindle, but a religious experiment occurring in a humble, simple human being. This special personality could live very contentedly as an ordinary person, without eating food. What does this mean ?.....

The experiments of Pavlov on the one hand, and this religious experiment of Teresa of Konnersreuth, both show us that there must be another source for keeping our body alive. Perhaps another possibility to understand metabolism and digestion that is usually taught by science.

Take this gastric juice, the salivary juice, etc., and begin, really to contemplate how it is possible that this exact judge is living within us, this intelligent mind is ruling all our glands. What does it mean? For instance, you can learn to understand it if you consider what Rudolf Steiner has told us about the so-called cosmic stream, and I shall try to explain it to you.

Rudolf Steiner in the last two years of his life told us more and more about this cosmic nutrition stream, in a clear and convincing way. .

It is so that our sense organs. our head, even the skin and our hair, are not only what they seem to be. With the light of the sun, with the warmth, with all our sense perceptions, we do not only receive the possibility to see, to hear, and to taste the outer world. We also receive through all these sense organs a certain amount of life forces, etheric forces. The forces of warmth, light, sound. and life, they stream into our body through the sense organs. Rudolf Steiner gives, in one of his lecture-courses, an exact description of how these forces stream into us. I do not want to go into details: I only want to give you a picture on which you can contemplate.

Rudolf Steiner says, there is this Cosmic nutrition stream, and this stream constantly enters our sense organs, but not to the same amount in the time-unit. From the sense organs, the eyes, ears, nose, mouth, etc. it streams down into the realm of our body. It is due to this cosmic nutrition stream that all our organs, our tissues, our cells are built up. Because these etheric forces are the real and actual source, the true food of our body.

If this is so, the question arises: Why do we eat at all? If we have this cosmic nutrition stream and it feeds us, why do we depend so very much on the amount and the quality of the food we take in ? There is an answer:

This cosmic nutrition stream is not flowing constantly to the same amount; it flows in the following way. (I would like to give you a kind of picture again.) Imagine please a simmering fire in the fireplace - just simmering, glowing and nothing else. The fire up and destroys the wood you threw in. wood you threw in. The same we should imagine with the cosmic nutrition stream, and the digestive process

We know that a certain amount of warmth is always around our head. This raiment of warmth around our head, this is the simmering fire which we carry with us. This simmering fire starts to glow and to burn when we develop a temperature. This fire this simmering warmth around our head then starts to flame up, but it also flames up at the moment we start to eat, but then it burns differently to when we have got a temperature. It burns in such a way that out of this

flaming glow which appears around our head the stream of cosmic nutrition enters in a much bigger and stronger flow our sense organs.

From the sense organs the etheric forces of light, sound, warmth and life stream down at the same time, but on another level, parallel to the instreaming food. The stream of earthly nutrition, which goes down, and the stream of cosmic nutrition which enters through the head and sense organs, these two streams flow downwards into our body. The cosmic-stream becomes more and more material, and (imagine all the clouds Dr. Lehrs spoke about) a certain kind of rain out of these etheric clouds begins to form. This rain grows mightier and mightier and becomes nothing else but the flow of the intestinal and gastric juice. The cosmic nutrition stream can be measured on the amount and on the quality of the gastric and intestinal juices. This juice is nothing else but the product of the streaming etheric forces.

They stream into every one of the gastric and intestinal glands, and these etheric forces are certainly what we had to call the judge. This "something" which is really judging the quality or the amount of the food we take this cosmic nutrition stream, is intelligent in the highest degree. These etheric forces respond, not in contemplating on the matter to be able to judge, to be rational towards the intake of food. This radiating reason of etheric forces, it develops instantly into rain within the intestinal tract.

This rain also falls down outside the walls of the intestinal tract. There is one vast sea or lake into which this rain streams, and this is the whole lymphatic organisation of our body. All the lymph vessels, with the lymph fluid, are nothing else but the receiving reservoir into which the etheric powers of this rain of radiant etheric forces fall down. Within the lymph vessels this rain turns into physical matter, as it turns into intestinal juice within the boundaries of the intestinal walls. This cosmic nutrition stream goes through the whole organism down into the abdomen, and there it parts on the one hand into the rain which comes down into the lymph stream, and on the other hand it becomes the rain which falls down into our intestinal tract, and is nothing else than the intestinal juice.

If you study how each convolution of our intestine is surrounded by vast amounts of lymph vessels, you will understand that one thinks to-day (not considering this cosmic nutrition stream) that all that comes into the intestinal tract goes through its walls and appears again inside the lymph vessels. If you imagine and consider the picture of the Cosmic nutrition stream, these rays of the sun which become rain within our body, one part falling down inside the intestine and the other part outside the intestinal wall, you can imagine how this cosmic nutrition stream actually acts and works.

On Friday evening we said that the result of the intestinal juice is the faeces, and we have now tried to understand that the whole gastric and intestinal juice is the rain coming down from the cosmic nutrition stream. Finally, the dung is nothing else than the last result of the cosmic nutrition stream, and you will understand what amount of quality, what amount of power and etheric forces you can find in the dung, and why dung is so imperatively necessary for all your work.

THE DUNG IS NOTHING ELSE THAN THE LAST RESULT OF THE COSMICE NUTRITION STREAM. It is not a physically and chemically changed nutrition, it is matter made out of the cosmic nutrition stream.

Cosmic forces and physical forces have mixed together to build up this intestinal milk. Is it now possible to find something which would look like a picture for all this which we have tried to describe ? Nature has given us such a picture to make us aware, to show to us that there is not only the physical nutrition, but also this cosmic nutrition. Just as farmers. you are very connected

with this natural picture of the cosmic and the earthly nutrition stream. When you study the ruminants, you have in this group two types which are closely connected to each other, the so-called Bovidi and Cervidi. If you look at two typical types of these families, the deer in the forests and woods, and the cow in the stable and on the meadow, you will find that they have two kinds of horns. The COWS have ordinary horns and the deer have antlers. Between these two kinds there is a big difference. These two kinds of anatomical structure are really polar opposites to each other. You know that the horns are really made out of the skin, whereas the antlers are made out of the bone. The antlers are part of the skeleton, the horns part of the skin. Now look and listen to these two kinds of animals.

If you imagine the head of the cow, and follow up the growing of the horn, then you will see that it is a very slow process. The skin comes up, higher and higher, and so more and more of the horn appears. Hard, old substance is developed until the horn is formed, and this horn stays there for the whole life.

On the other hand you have the antlers, and following up the growing, the development of the antlers, you will see that this is not a slow process which goes on in gradual steps, step by step: It is a kind of quick fire process. Imagine the skull of the deer. Suddenly the bone breaks through, piercing the skin and starts to grow on in a short time, and this antler is built up only to last a year. The bone pierces the skin and from the inside of the organism, the skeleton turns outwards. While the horn is but an extension of the skin - a slow process, in the antlers the power of blood and fire let this bone grow. They are surrounded and brought about by a great amount of blood, which builds them up.

Now imagine the wild deer running through the forest, with the antlers searching the atmosphere, and then the quiet grazing cow with its horn. Imagine these two kinds of animals. Imagine a cow, eating again and again, and imagine the deer.

During the last twenty years certain investigations have been made about the embryonic development of the embryonic young deer. After the egg is fertilised round about October, it grows for about ten days and then the embryo stops growing. At a certain date of the year about the 24th or 25th December the whole embryonic development starts to come into being again. What does it mean? It shows that the deer, with its antlers, is completely embodied into the etheric and spiritual forces of the surroundings. Even its embryo develops according to the spiritual festivals of the earth.

The cow is the preserver of the physical nutrition stream. The horns are keeping together all that which is going on within the whole digestive tract of the cow. The deer run through the woods, wild and completely embedded in the whole spiritual and etheric atmosphere of the surrounding; they bring down the cosmic nutrition stream with their antlers, showing the routes and ways the cosmic nutrition stream takes. If we were able to see the cosmic nutrition stream streaming down we could say: our whole head is surrounded by a kind of antler-structure,

In these two kinds of animals, the Cervidi and Bovidi, in the tame and the wild one - there Nature offers us a picture about the cosmic and the earthly nutrition streams. If we see this in the right way we will learn to understand it.

What are you actually doing when you take the bladder of the deer and hang it up during the summer on a high part of your house? You open the organ of such an animal, which is embedded into the cosmic nutrition stream: you take it again and expose it to the whole sun atmosphere.

The horn you put into the earth, the dark ground of the soil. You do two opposite operations, and may now be able to see why this is done. You learn to understand that the cosmic

nutrition stream is a reality, into which understanding we have to grow, and we more or less easily will not only understand it, but really see and experience it.

There is another thing I would like to mention, and this is the following: On Friday evening several of you put the question to me: How is it with alcohol and its forces? Does its nutritional value make a certain difference to the other food? How do we take in, and what does our organism do with alcohol? I then answered part of the question, but after we have talked about the cosmic nutrition stream, I think I can say a little more.

I shall remind you of this intestinal milk, which comes into being by the meeting of the cosmic and earthly nutrition stream: the cosmic intestinal rain, and the amount of food we have taken in. A kind of milk is there prepared. I call it a kind of milk because everything which you can find in milk - proteins, fats, minerals - you find also in this intestinal milk. But alcohol, this is now a very peculiar substance because alcohol is the actual substance out of which everything in our metabolism can be, and is, prepared. Within this milk, spots of alcohol, and tiny little droplets of alcohol, appear and out of these drops really anything is able to be built up. When living substance like fat, or protein, or carbohydrate is chemically so far broken down that alcohol is the result of this destruction, everything can be built up of this alcohol again. Alcohol is for the living matter what carbon is for the living structure.

If one more and more will understand the nature of alcohol, one will understand the central, the focus point of all metabolism, because out of alcohol, the body can make anything and everything.

The alcohol will lead to sugar, from this sugar to fat, to every kind of organic ether, and on this way to any kind of proteins

We must learn again to understand that there, beneath our diaphragm, there is only one substance - milk. one about which I spoke in the words and pictures Rudolf Steiner once gave, speaking about the Lemurian epoch; this world-wide milky atmosphere around our earth. was the realm where the animals and the Plants were really created. The same milky atmosphere, the same milk of creation, we have within us and there are certain tiny spots of fire or lightening really lightening and these spots of fire or spots of lightening are nothing but alcohol. These drops of alcohol are the first centres, the focus points of these expanding substances, which develop into proteins, fats and carbohydrates. To understand this you have to see the whole human body and the metabolic processes as a great laboratory. (But not a laboratory such as we have to-day; a laboratory like the whole earthly existence has been in the early Lemurian time. There is milk, and it is this milk which comes into existence by the flow of the cosmic nutrition stream. Out of this milk all the different thousands and thousands of single substances are prepared.

If, on the other hand, you follow up the intake of carbon, nitrogen, oxygen, hydrogen and so on, you will find anything which can enlighten you for an understanding of our metabolism, because the way from intake to outgoing is not a direct one. The excretions can be investigated, but all that which happens in between, that so often is not investigated in the laboratory, can be investigated if one considers the creation coming down and working in our body, and that every intake of food is nothing but re-creating the world.

Then one will understand that not only in the milk is this "Good Mummy" about which Paracelsus spoke, and that not only is the urine the "Bad Mummy", but that for instance our cosmic nutrition stream is a good mummy and this good mummy should be called the wise mummy of the cosmic nutrition stream - this wise judge who really always disposes as much rain as is necessary for the soil of our digestion, as much rain and as much minerals as are necessary to destroy and to build up; to destroy that which we take in, and to build up that which our whole organism is.

In our body, cosmically built up, there are two resting spots - our brain which gives us our consciousness, and the faeces which give consciousness, via your animals, to the soil.

End of Third Lecture