

Cosmic Workings In Earth and Man

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III

ON NUTRITION

Protein, Fats, Carbohydrates, Salts

(Dr. Steiner asks if anyone has a question.

A question is asked about nutrition and about the potato as a foodstuff in Europe and elsewhere.)

DR. STEINER: We will think about the general question of nutrition and its relation to the spiritual world. As you know, it was not until the modern age that the potato was introduced as a foodstuff: I have told you that in earlier times people in Europe did not eat potatoes but food of quite a different kind. The subject cannot, of course, really be understood without studying the relation of the spiritual world to the whole process of nutrition.

You will remember that I once spoke to you of four substances upon which man's life essentially depends. Firstly, there is protein. Protein is a constituent of all food; it is found in its most characteristic form in the hen's egg, but it is present in all foodstuffs. Protein, then, is the first of these four essential substances.

Then there are the fats. Fats are consumed not only when the flesh of animals is eaten; all foodstuffs contain fat. Other substances, too, as you know, are transformed into fat-containing foodstuffs, for example, milk into cheese.

Carbohydrates are the third essential constituent of food. Carbohydrates come from the plant kingdom; they are of course present in other foodstuffs, too, but essentially in substances like wheat, rye, lentils, beans, potatoes — especially in potatoes.

Finally there are the salts. Salts are usually considered to be mere accessories but they play a particularly important part in man's life. The most common form, of course, is cooking salt, but all foodstuffs contain salts. It may therefore be said: In order that man may be able to live at all, his food must contain protein, fats, carbohydrates and salts.

I will now speak of how these different substances nourish the human being as constituents of the various kinds of foodstuffs. First of all we will think about the salts.

Even when salts are consumed in tiny quantities they not only add flavour but are an extremely important means of nourishment. We take salt with our food not only to make it tasty but really in order that we may be able to *think*. The salts that are contained in food must reach the brain if we are to be capable of thinking. If a person is so ill that all the salt in his food is deposited in the stomach or intestines and not carried by the blood into the brain, he becomes stupid, dull-witted. That is the point to which attention must be called.

We must of course be quite clear that the spirit is a reality, but if spirit is to be an active power on the earth, it must work in the earth's substances. In Spiritual Science, therefore, we must be able to perceive how the spirit works in the various substances. Otherwise it would be like saying: Oh, but we are spiritual people and machines are entirely material; we do not want anything material, therefore we shall not buy iron or steel but make machines entirely out of spirit. That, of course, is sheer nonsense! Substance is absolutely essential. The spirit working as the creative power in nature needs substance. And if spirit is prevented from making use of substance — for example, if salts are deposited in the stomach and intestines instead of reaching the brain by way of the blood — then a man becomes stupid and dull.

Needless to say, things are not as simple as all that. Man cannot derive nourishment from salt in the form in which it is present in external nature. If you were to make a tiny perforation in the brain and let salt trickle in, it would be quite useless. The salt must pass into the stomach and intestines and be brought into a finer and finer state of solution — even on the tongue it begins to dissolve. The result of what the human organism does with the salt is that it is already in a spiritualised condition when it reaches the brain. The process is by no means one of simply introducing salt into the brain — it is by no means as simple as that. But if a man's condition is such that the effects of salt cannot work in his brain, he becomes dull and stupid.

Now let us think of the carbohydrates. When we eat peas, beans, wheat, rye or potatoes — above all potatoes — we consume carbohydrates. The carbohydrates have a great deal to do with shaping the human form. If our food contained no carbohydrates, all kinds of distortions would appear: malformations of the nose or the ears, for example. It is due to the carbohydrates that we bear the outward stamp of *man*. If a person's constitution is such that the carbohydrates are not carried into the brain but deposited in the intestines and stomach, we shall see him becoming shrivelled and feeble, as though incapable of holding himself erect. The carbohydrates, therefore, help to give the human form its proper shape.

You see, therefore, that it is important for us to get hold of the right kind of foodstuffs. The salts work mainly upon the front part of the brain, the carbohydrates farther back. A man who cannot thoroughly digest the carbohydrates, whose organism is incapable of carrying them into the proper area of the brain, will very soon become permanently hoarse and be unable to speak with a really clear voice. Therefore if you have in front of you someone who used to speak quite normally but has suddenly developed hoarseness, you may surmise that he has digestive trouble of some kind. He cannot thoroughly digest the carbohydrates; they do not reach the right area of the brain and the consequence is that something goes wrong with his breathing and his speech. And so we may say: the salts work mainly upon thinking. The carbohydrates work, for example, upon *speaking* and the organic processes allied with it, and are an essential constituent of food. The carbohydrates help to give our human form its proper shape, but if left to themselves their tendency would be to make us into a mere form and leave it at that. They do not fill out the form — that is done by the fats. The carbohydrates have, so to speak, merely outlined the form and the fats provide the filling material. That is their function — to provide us with material substance. In fat itself, of course, this material has a definite character.

I have told you that the human being consists of an "I," an astral body, an etheric body and a physical body. Fat, needless to say, accumulates and is deposited in the physical body. But the all-important function of enabling the fat to be deposited and at the same time to remain *living* fat, is performed by the etheric body. Feeling and perception, however, depend upon the *astral body*.

When a man is awake, the astral body is within him; when he is asleep the astral body is outside. When he is awake and the astral body is working in the etheric body, fat is assimilated and absorbed all the time. Fat acts as a lubricant for the whole body. When a man is asleep and the astral body is outside him, fat is not assimilated but deposited. During waking life, fat acts as a constant lubricant; during sleep, fat is deposited. And both are necessary: deposited fat and lubricating fat.

If someone passes his days in a kind of continuous sleep ... such cases are less frequent now than they used to be, but think of some leisured gentleman who does no work at all. Fat is actually deposited during what is called his waking life — although it really amounts to sleep! Such a man grows very corpulent and fat accumulates all over his body. Healthy depositing of fat, therefore, depends upon proper assimilation and absorption, for fat is being produced inwardly all the time. A man who consumes just the quantity he can assimilate, keeps healthy; but if anyone goes on eating, eating, eating, and assimilates nothing, he will become corpulent, pot-bellied.

Country folk know these things by instinct. They know that when pigs are being fattened the life of these animals must be so arranged that their bodies are no longer lubricated and that everything they eat is deposited.

It may, of course, be impossible for fats to be properly deposited in the organism; if this is the case, a man is ill. In this respect a man of leisure is healthy. But another trouble may be that the carbohydrates are not deposited and then the voice gets hoarse. It may also be that the fats are not deposited in the right way but simply pass away in the faeces; when this happens there is too little fat in the organism and therefore inadequate lubrication. This is what happens, too, when our food is insufficient and we suffer from actual hunger. Fat is the material we supply to the body. What happens to a man who has to go hungry or whose digestion is such that instead of the fats being deposited, they pass out of the body in the faeces? A person who has not enough physical material in his body becomes more and more spiritual. But this is not the right way to become spiritual, for under these conditions spirit consumes him, burns him up. Not only does he wither and become more and more emaciated, but gasses form in his organism and this condition leads, eventually, to actual delusions. There is always some disturbance in the spiritual life when a man is ill. Inadequate absorption of fat leads to wasting — or consumption as it may also be called.

Now let us speak about *protein*. The presence of protein is essential from the very outset. It is present in the egg before a human being or an animal comes into existence. We can therefore say that protein is the substance which really builds up the human body and is the basis upon which it develops; it is the primary and fundamental substance out of which everything else in the body must unfold. Protein is present in the mother's womb as a tiny egg; the fertilisation of the egg enables the protein to become the basis of the human body. But man needs protein all the time; it must be a constituent of his regular food. If his organism contains too little protein, or he cannot thoroughly digest it, he will gradually waste away; but if at any moment of his life he were without protein he would immediately die. Protein is essential both for the beginning of existence and for man's very life. Absence of protein means death.

Now let us think again about the different kinds of foodstuffs. The salts have a special connection with the front part of the head; that is where they are chiefly deposited. The carbohydrates are deposited a little farther back. Upon the carbohydrates depends the proper shaping of the human form. The fats are deposited still farther back and from there they begin to fill out the body. The fats do not enter directly into the body but pass from the blood into the head and are distributed to the body from there. All the substances, including protein, pass through the head.

Now there is a great difference among the carbohydrates. In foodstuffs such as lentils, beans, peas, rye, wheat, it is the *fruit* that is the source of the carbohydrates. The wheat we get from the earth is the fruit of the plant; the lentil is fruit. A property peculiar to fruits is that they are already digested in the stomach and intestines and it is only their *forces* that reach the head. Typical conditions which follow the eating of lentils and beans are evidence to us all that the whole process of digestion is taking place in the intestines. The characteristic of fruits is that they are already fully digested in the intestines.

But we cannot eat the *fruit* of the potato plant, because it is poisonous. There is a difference between the potato as a foodstuff and lentils, beans, peas, rye, wheat, etc. What part of the potato plant do we eat? We eat the tuber, the bulb. Now the bulb is just that part of a plant or root which

is *not* digested in the intestines. Fruits are digested in the intestines. But the fruit of the potato plant cannot be eaten, and the bulb is not a root in the real sense. Very well, then, when a potato is eaten it passes into the stomach and intestines where it cannot be digested; the blood carries it upwards in an undigested state. Instead of reaching its own area of the brain in a fine, etherealised condition and being at once sent down into the body — as happens with foodstuffs like rye or wheat — the digestion, properly speaking, has to take place in the brain. When we eat bread made of pure rye or wheat, it is fully digested in the stomach and intestines; the onus of digestion does not devolve upon the head but the head is left free for its task of providing for the distribution over the body. On the other hand, when we eat potatoes or potato-bread, the head has to cope with the actual digestion. But when the head has to be employed primarily for the digestion of the potatoes, it becomes incapable of *thinking* in the real sense, because in order to think its forces must be kept free; the abdomen should relieve it of the task of digestion. So if potatoes are eaten in excessive quantities ... this is a habit which has been steadily on the increase since the potato was introduced as an important foodstuff in Europe ... the head is gradually thrown out of gear for the purpose of really active thinking and little by little man loses the capacity to think with the middle part of his brain; he thinks, then, only with the front part of the brain — which is dependent on the salts. This tends more and more to make him a purely intellectual, materialistic thinker. The front part of the brain is incapable of genuinely spiritual thinking. It is through the front part of the brain that man becomes intellectualistic.

What has happened is that really deep and inward thinking began to wane in Europe from the moment the potato became an important constituent of food. We must realise, of course, that the human being is not a product of the forces of the earth alone. I have told you many times that man is created by the forces of the whole surrounding universe, by the forces of sun, moon and stars. When a man feeds on potatoes, the middle part of his head is used solely for the purpose of digesting them. The result is that having shut himself off from the universe around, he no longer acknowledges its existence and declares: All this talk about spirituality streaming down from the universe is so much twaddle! ... And so it may be said that too much potato food has helped to drive the modern age into materialism.

Needless to say, it is chiefly the poor who are obliged to fall back on potatoes simply because they are cheap; the well-to-do can afford to buy food containing substances like spices and salts which work upon the front part of the head. Spices have the same effect as salts in the front part of the head. And so these people become thorough-going intellectualists; and the others, being incapable of really active thinking, can easily be imposed upon. The potato as a foodstuff is related in a very special way to man's spiritual activity; it has actually furthered materialism.

Thinking now of the different members of man's being, we shall say: the physical body originates in the first place from protein. Protein is connected with the birth and death of the physical human being. The etheric body is at work in the fats, the astral body in the carbohydrates; the "I," or Ego, in the salts.