SPIRITUAL SCIENCE AND MEDICINE

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Rudolf Steiner (1861-1925)
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LECTURE I

WE MAY take it as obvious that only a very small proportion of what my present hearers probably expect for the future of their professional life can be indicated in this series of lectures; for you will all agree that any confidence in the future among medical workers depends on the reform of the actual medical curriculum. It is impossible to give any direct impetus to such reform by means of a course of lectures. The most that may possibly result is that certain individuals will feel the urge to help and participate in such reform. Any medical subject under discussion today has, as its background, those initial studies in anatomy, physiology and general biology, which are the preliminaries to medicine proper. These preliminaries bias the medical mind in a certain direction from the first; and it is absolutely essential that such bias should be rectified.

In this series of lectures I should like, in the first place, to submit to you some facts bearing on the obstacles in the customary curriculum to any really objective recognition of the nature of disease per se. Secondly, I would suggest the direction in which we should seek that knowledge of human nature which can afford a real foundation for medical work. Thirdly, I would indicate the possibilities of a rational therapy based on the knowledge of the relationship between man and the surrounding world. In this section I would include the question whether actual healing were possible and practicable.

Today I shall restrict myself to introductory remarks, and to a kind of orientation. My principal aim will be to collect for consideration from Spiritual Science all that can be of value to physicians. It is my wish that this attempt should not be confused with an actual medical course, which it nevertheless will be in a sense. But I shall give special attention to everything that may be of value to the medical worker. A true medical science, or art, if I may call it so, can only be attained by consideration of the factors to which I have referred.

Probably you have all, in thinking over the task of the physician, been baffled by the question: "What does sickness mean and what is a sick human being?" The most usual definition or explanation of sickness in general and of sick people, is that the morbid process is a deviation from the normal life process; that certain facts which affect human beings, and for which normal human functions are not in the first place adapted, cause certain changes in the normal life process and in the organisation; and that sickness consists in the functional deficiency of the organs caused by such changes. But you must admit that this is a merely negative definition. It offers no
help when we are dealing with actual diseases. It is just this practical help that I shall aim at here, help in dealing with actual diseases. In order to make things clear it seems advisable to refer to certain views, which have developed in the course of time, as to the nature of disease; not as indispensable for the present interpretation of morbid symptoms, but as signposts showing the way. For it is easier to recognise where we are now if we appreciate former points of view which led up to those now current.

The accepted version of the origin of medicine derives it from the Greece of the fifth and fourth centuries before the Christian era, when the influence of Hippocrates was supreme. Thus an impression is produced that the system of Hippocrates—which developed into the Humoral pathology accepted until well into the nineteenth century—was the first attempt at medicine in the Occident. But this is a fundamental error, and is still harmful as a hindrance to an unprejudiced view of sickness. We must, to begin with, clear this error away. For an unbiased view the conceptions of Hippocrates which even survived until the time of Rokitansky, that is until the last century—are not a beginning only, but to a very significant degree are a conclusion and summary of older medical conceptions. These were not reached by contemporary methods, i.e., through anatomy, but by the paths of ancient atavistic vision. The most accurate abstract definition of Hippocratic medicine would be: the conclusion of archaic medicine based on atavistic clairvoyance. From an external point of view, we may say that the followers of Hippocrates attributed all forms of sickness to an incorrect blending of the various humours or fluids which cooperate in the human organism. They pointed out that these fluids bore a certain ratio to one another in a normal organism, and that this ratio was disturbed in the sick human body. They termed the healthy mixture or balance Krasis, the improper mixture Dyskrasis. The latter had to be influenced so that the proper blend might be restored. In the external world, they beheld four substances which constituted all physical existence: Earth, Water, Air and Fire—Fire meaning what we describe simply as warmth. They held that these four elements were specialised in the bodies of man and the animals, as black bile, yellow bile, (gall) mucus (slime), and blood, and that the human organism must therefore function by means of the correct blending of these four fluids.

The contemporary man with some kind of scientific grounding, who considers this theory, argues as follows: the blending and interaction of blood, mucus, bile and gall, in due proportion, must produce an effect according to their inherent qualities known to chemistry. And this restricted view is thought to be the essence of Humoral pathology; but erroneously. Only one of the four “humours,” the most Hippocratic of all—as it appears to us today—namely “black bile”
was believed to work through its actual chemical attributes on the other “humours.” In the case of the remaining three fluids, it was believed that besides the chemical properties there were certain intrinsic qualities of extra-telluric origin. (I am referring to the human organism for the moment, excluding animals from consideration.) Just as water, air and fire were believed to be dependent on extra-telluric forces, so also these ingredients of the organism were believed to be interpenetrated with forces emanating from beyond the earth.

In the course of evolution, western science has completely lost this reference to extra-terrestrial forces. For the scientist of today, there is something absolutely grotesque in the suggestion that water possess not only the qualities verifiable by chemical tests, but also, in its action within the human organism. Qualities appertaining to it as a part of the extra-terrestrial universe. Thus the Ancients held that the fluids of the human body carried into the organism forces derived from the cosmos itself. Such cosmic forces were regarded less and less as the centuries went on; but nevertheless medical thought was built up on the remains of the fading conceptions of Hippocrates until the fifteenth century. Contemporary scientists therefore have great difficulty in understanding pre-fifteenth century treatises on medical subjects; and we must admit that the writers of these treatises did not, as a rule, themselves fully comprehend what they wrote. They talked of the four elements of the human organism, but their special description of these elements was derived from a body of wisdom that really perished with Hippocrates. Nevertheless, the qualities of these fluids were still matters of discussion and dispute. In fact, from the time of Galen till the fifteenth century, we find a collection of inherited maxims that become continuously less and less intelligible. Yet there were always isolated individuals able to perceive that there was something beyond what could be physically or chemically verified, or included in the merely terrestrial. Such individuals were opponents of what “humoral pathology” had become in current thought and practice. And chief among them were Paracelsus and Van Helmont, who lived and worked from the end of the fifteenth century into the seventeenth, and contributed something new to medical thought, by their attempts to formulate something their contemporaries no longer troubled to define. But the formulation they gave could only be fully understood with some remainder of clairvoyance, which Paracelsus and Van Helmont certainly possessed. If we ignore these facts, we cannot arrive at any conclusion concerning peculiarities of medical terminology whose origin is no longer recognisable.

Paracelsus assumed the existence of the Archaeus, as the foundation for the activity of the organic “humours” in man, and his followers accepted it. He assumed the Archaeus, as we today speak of the “Etheric” body of man.
Whether we use the term Archaeus, as Paracelsus did, or our term, the etheric body, we refer to an entity which exists but whose origin we do not trace. If we were to do this, our argument would be as follows: Man possesses a physical organism* mainly constructed by forces acting out of the sphere of the earth; and also an etheric organism (Diagram No. I, in Red) mainly constructed by forces acting from the cosmic periphery. Our physical body is a portion as it were of the whole organism of our Earth. Our etheric body—like the Archaeus of Paracelsus—is a portion of that which does not belong to the earth, but which acts on and affects the earth from all parts of the cosmos. Thus Paracelsus viewed what was formerly designated the cosmic element in man—of which the knowledge had perished with Hippocratic medicine—in the form of an etheric body, which is the basis of the physical. But he did not investigate further—though he gave some hints—the extra-terrestrial forces associated with the Archaeus and acting in it.

The exact significance of such facts grew more and more obscure, especially with the advent of Stahl’s medical school in the seventeenth and eighteenth centuries. Stahl’s school has wholly ceased to comprehend this working of cosmic forces into terrestrial occurrences; it grasps instead at vague concepts such as “vital force” and “spirits of life.” Paracelsus and Van Helmont were consciously aware of the reality at work between the soul and spirit of man and his physical organisation. Stahl and his followers talk as though the conscious soul-element was at work, though in another form, upon the structure of man’s body. This naturally provoked a vehement reaction. For if one proceeds like this and founds a sort of hypothetic vitalism one comes to purely arbitrary assertions, and the nineteenth century opposed these assertions. Only a very great mind, like Johannes Müller (the teacher of Ernst Haeckel), who died in 1858, was able to overcome the noxious effects of this confusion, a confusion of soul forces with “vital forces” which were supposed to work in the human organism, although how they operated was not very clear.

Meanwhile a quite new current made its appearance. We have followed up the other current which faded out; the new current in the nineteenth century had a rather different bearing upon medical thought. It was set in motion by one extremely influential piece of work dating from the preceding century: The De sedibus et causis morborum per anatomen indugatis by Morgagni. Morgagni was a physician of Padua, who introduced an essentially materialistic trend into medicine; the term materialism is used here, of course, as an objective description, without sympathies and antipathies. The new trend initiated by Morgagni’s work consisted in turning the interest to the after-effect of disease upon the organism. Post-mortem dissections were regarded as decisive; they revealed that whatever the disease may have been, typical effects could be
studied in certain organs, and the changes of the organs by disease were studied from the autopsy. With Morgagni, pathological anatomy begins, whereas the former content of medicine still retained some traces of the ancient element of clairvoyance.

It is of interest to observe the suddenness with which this great change finally occurred. The *volte-face* took place within two decades. The ancient inheritance was abandoned and the atomistic-materialistic conception in modern medicine was founded. Rokitansky’s *Pathological Anatomy* (published in 1842) still contains some traces of the “Humoral” tradition; of the conception that illnesses are due to the abnormal interaction of the fluids. Rokitansky achieved a brilliant combination of the study of organic change, with a belief in the importance of the fluid (humours); but it is impossible to consider these bodily fluids adequately without some recognition of their extra-terrestrial qualities. Rokitansky referred the degenerative changes revealed in autopsies to the effect of the abnormal mixture of the bodily fluids. Thus the last visible trace of the ancient tradition of “Humoral pathology” was in the year 1842. The interlocking of this perishing heritage of the past with attempts such as Hahnemann’s—attempts forecasting future trends of dealing with more comprehensive concepts of disease—we shall consider in the next few days, for this subject is far too important to be relegated to an introduction. Similar experiments must be discussed in their general connection and then in detail.

The two decades immediately following the appearance of Rokitansky’s book were decisive for the growth of the atomistic-materialistic conception in medicine. In the first half of the nineteenth century there were curious echoes of the ancient conceptions. Thus, for example, Schwann may be termed the discoverer of the vegetable cell; and he believed that cells were formed out of a formless fluid substance to which he gave the name Blastem, by a process of solidification, so that the nucleus emerges together with the surrounding protoplasm. Schwann derived cells from a fluid with the special property of differentiation, and believed that the cell was the result of such differentiation. Later on the view gradually develops that the human frame is “built up” of cells; this view is still held today; the cell is the “elementary organism,” and from the combination of cells, the body of man is built up.

This conception of Schwann’s, which can be read “between the lines” and even quite obviously, is the last remainder of ancient medical thought, because it is not concerned with atomism. It regards the atomistic element, the cell, as the product of a fluid which can never properly be considered as being atomistic—a fluid which contains forces and only differentiates the atomistic from itself. Thus in these two decades, the forties and fifties of the nineteenth
century, the older, more universal view approaches its final end, and the atomistic medical view shows its faint beginnings. And it has fully arrived when, in 1858, appeared the *Zellular Pathologie* (*Cellular Pathology*) of Virchow, Between *Pathologischen Anatomie*, 1842, by Rokitansky and *Zellular Pathologie*, 1858, by Virchow one must actually see an immense revolution—proceeding in leaps and bounds—in the newer medical thinking. *Cellular Pathology* derives all the manifestations of the human organism form cellular changes. The official ideal henceforth consists in tracing every phenomenon to changes in the cells. From the change in the cell the disease is supposed to be understood. The appeal of this atomism is its simplicity. It makes everything so easy, so evident. In spite of all the progress of modern science, the aim is to make everything quickly and easily understood, regardless of the fact that nature and the universe are essentially extremely complex.

For example: It is easy to demonstrate through a microscope that an Amoeba, in a drop of water, changes form continuously, extending and retracting its limblike projections. It is easy to raise the temperature of the water, and to observe the greater rapidity; with which the pseudopodia protrude and retract, until the temperature reaches a certain point. The amoeba contracts and becomes immobile, unable to meet the change in its environment. Now, an electric current can be sent through the water; the amoeba swells like a balloon, and finally bursts if the voltage becomes too high. Thus it is possible to observe and record the changes of a single cell, under the influence of its environment; and it is possible to construct a theory of the origin and causation do disease, through cumulative cellular change.

What is the essential result of this revolution which took place in two decades? It lives on in everything that permeates the acknowledged medical science of today. It is the general tendency to interpret the world atomistically which has gradually arisen in the age of materialistic thought.

As I stated at the beginning of this address, the medical worker today must of necessity inquire: What sort of processes are those we term diseased? What is the essential difference between the diseased and the so-called normal processes in the human organism? Only a positive representation of this deviation is practicable, not the official and generally accepted definitions, which are merely negative. These deviations from normality are stated to exist, and then there are attempts to find how they may be removed. But there is no penetrating conception of the nature of the human being. And from the lack of such a conception our whole medical science is suffering. For what, indeed, are morbid processes? It cannot be denied that they are natural processes, for you cannot make an abstract distinction between any external natural process, whose stages can be observed, and a morbid process within the body. The natural process is
called normal, the morbid one abnormal, without showing why the process in the human organism differs from normality. No practical treatment can be attained without finding out. Only then can we investigate how to counter-balance it. Only then can we investigate how to counter-balance it. Only then can we find out form what angel of universal existence the removal of such a process is possible. Moreover, the term “abnormal” is an obstacle to understanding: why should such-and-such a process in man be termed abnormal? Even a lesion, such as wound or deep cut with a knife, in the finger, is only relatively “abnormal,” for to cut a piece of wood is “normal.” That we are accustomed to other processes than the cutting of a finger says nothing; it is only playing with words. For what happens through the cutting of my finger is, when viewed from a certain angle, as normal as any other natural process. The task before us is to investigate the actual difference between the so-called diseased processes, which are after-all quite normal processes of nature, but must be occasioned by definite causes, and the other processes which we call healthy and which occur every day. We must ascertain this essential difference; it cannot, however, be ascertained without a knowledge of man which leads to his essential being. I shall give you, in this introduction, the first elements; we shall later on proceed to the details.

As these lectures are limited in number, you will understand that I am principally giving things which you cannot find in books or lectures and am assuming the knowledge presented in those sources. It would not seem to me worth while to put a theory before you, which you could find stated and illustrated elsewhere.

Let us therefore begin here with a simple visual comparison which you can all make; the difference between a human skeleton and that of a gorilla, an ape of so-called high grade. Compare the visible outlines and proportions of these two bony frameworks. The most conspicuous feature of the gorilla, in point of size, is the development of the lower jaw and its appurtenances. This enormous jaw seems to weight down, to overload, the whole bony structure of the head,* so that the gorilla appears to stand upright only with an effort. But there is the same weightiness in comparison with the human skeleton, if you examine the forearms and hands and fingers. They are heavy and clumsy in the gorilla; whereas in man they are delicate and frail; there the mass is less obvious. Just in these parts, the system of the lower jaws and forearms with the fingers, the mass recedes in man, whereas it is very obvious in the gorilla. The same comparative peculiarities of structure can be traced in the lower limbs and feet of the two skeletons. There, too, we find a certain weight pressing in a definite direction. I should like to denote the force which one can see in the systems of underjaw, arm, leg, foot—by means of this line in the diagram.†
These differences in structure suggest to the observer that in human beings, where the weight of the jaw recede and the arms and finger bones are delicate, the downward pressing forces are countered everywhere by a force directed upwards and away from the earth. The formative forces in man must be represented in a certain parallelogram of forces which results from the same force which is directed upwards and which the gorilla appropriates externally only, standing upright with difficulty. I then arrive at a parallelogram of forces that is formed by this line and by this one.‡

As a rule nowadays we are content to compare the bones and muscles of the higher animals with our own, but to ignore the changes in form and posture. Yet the contemplation of the formative changes is of essential significance. There must be certain forces acting against those other forces which mould the typical gorilla frame. They must exist. They must operate. In seeking them we shall find that which has been lost inasmuch as the ancient medical wisdom has been filtered from the system of Hippocrates. The first set of forces in the parallelogram are of a terrestrial nature, while the other set of forces which unite with the terrestrial forces so as to form a resultant which is not of terrestrial origin, must be sought outside the terrestrial sphere. *We must search for tractive forces which bring man into the upright posture, not merely on occasion, as among the higher mammals, but so that these forces are at the same time formative.* The difference is obvious: the ape if he walks upright has to counteract forces which oppose the erection with their mass; whereas man forms his very skeleton in accordance with forces of a non-terrestrial nature. If one not only compares the particular bones of the man with those of the animal, but examines the dynamic principle in the human skeleton, one finds that there is something unique and not to be found in the other kingdoms of nature. Forces emerge that we have to combine with the others to make the parallelogram. We find resultants not to be found among the forces of extra-human nature. Our task will be to follow up systematically this “jump” leading from animal to man. Then we can find the origin essence of “sickness” in animals as well as in man. I can only indicate little by little these lines of inquiry; we shall find much of importance from these elements as we continue further.

Now let me mention another fact, which concerns the muscular system. There is a remarkable difference in muscular reactions; when in repose, the chemical reactions of the muscles are alkaline, though very slightly so in comparison with most other alkaline reactions. When in action, the muscular reactions are acid, though also faint. Now consider that from the point of view of metabolism the muscle is formed out of assimilated material, that is, it is a result of the forces present in terrestrial substances. But when man passes to action the normal properties of the
muscle, as a substance affected by ordinary metabolism, are overcome. This is quite evident.

Changes take place in the muscle itself, which are different from ordinary metabolic processes, and can only be compared with the forces active in the human bone-system. Just as these formative forces in man transcend what he has from outside, interpenetrating terrestrial forces and uniting with them so that a resultant arises, so we must recognise the force that is manifested through the altered metabolism of muscles in action, as something working chemically from outside the earth into terrestrial chemistry. Here we have something of an extra-terrestrial nature, which works into earthly mechanics and dynamics. \textit{In metabolism there is something active beyond terrestrial chemistry, and capable of other results than those caused by terrestrial chemistry alone.}

Those considerations, which are concerned both with forms and qualities, must be the starting point in our quest for what really lies in the nature of man. Thus we may also find the way back to what we have lost, yet sorely need if we are not to stop at formal definitions of disease that cannot be of much use in actual practice. An important question arises here. Our \textit{materia medica} contains only terrestrial substances taken from man’s environment, for the treatment of the human organism which has suffered changes. But there are non-terrestrial processes active in him—or at least forces which cause his processes to become non-terrestrial—and so the question arises: how can we provoke an interaction leading from sickness to health, by methods affecting the sick organism through its physical earthly environment? How can we initiate an interaction which shall include those other forces, which work in the human organism, yet are not limited to the scope of the processes from which we take our remedies, even when they take effect through certain forms of diet, etc.?

You will realise the close connection between a correct conception of human nature and the methods that may lead to a certain therapy. I have intentionally chosen these first elements which are to lead us to an answer, from the differences between animals and men, although well aware of the objection that animals, like men, are subject to diseases, that even plants may become diseased, and that morbid states have recently been spoken of even among minerals; and that there should therefore be no distinction between sickness in animals and in the human race. The difference will become obvious when it will be apparent how little value in the long run, adheres to the results of animal experimentation undertaken solely to gain knowledge for use in human medicine. We shall consider why it is undoubtedly possible to attain some help for mankind through experiments on animals, but only if and when we understand the radical differences, even to the smallest detail, between animal and human organisms.
I want to emphasise that in referring to cosmic forces, far greater demands are made on man’s personality than if we merely refer to so-called objective rules and laws of nature. The aim must be set before us to make medical diagnosis more and more a practice of intuition; the gift of basing conclusions on the formative phenomena of the individual human organism (which may be healthy or sick) can show how this training in intuitive observation of form will play an ever-increasing part in the future development of medicine.

These suggestions are only intended to serve as a sort of introductory orientation. Our concern today was to show that medicine must once more turn its attention to realms not accessible through chemistry or Comparative Anatomy as usually understood, realms only to be reached by consideration of the facts in the light of spiritual science. There are still many errors on this subject. Some hold the main essential for the spiritualising of medicine to be the substitution of spiritual means for material. This is quite justifiable in certain departments, but absolutely wrong in general. For there is a spiritual method of knowing the therapeutic properties of material remedies; spiritual science can be applied to evaluate material remedies. This will be the theme of that portion of our subject matter which I have termed the possibilities of healing through recognition of the inter-relationships between mankind and the external world.

I shall hope to base what I have to say about special methods of healing on as firm a foundation as possible, and to indicate that in every individual case of sickness it is possible to form a picture of the connection between the so-called “abnormal” process which must also be a process of nature, and those “normal” processes which gain are nothing else than nature processes. This primary problem of how the diseased process can be regarded as a natural process has often cropped up. But the issue has been evaded again and again. I find certain facts about Troxler of great interest in this connection. Troxler taught medicine at the University of Berne and in the first half of the last century he devoted much energy to maintaining that the “normality of disease” should be investigated; that such investigation would finally lead to the recognition of a certain world connected with our own, and impinging on our world, as it were, through illegitimate gaps; and that this would be the key to something bearing on morbid phenomena. Please imagine such a diagrammatic picture; a world in the background whose laws, in themselves justified, could cause morbid phenomena amongst the human race. Then, if this world meets and interpenetrates our own, through certain “gaps,” its laws, which are adapted to another world, could do mischief here. Troxler wanted to work in this direction. And however obscure and difficult his expressions on many subjects may be, one notes that he had struck out a path for himself in medicine, with the purpose of working towards a certain restoration of medical
A friend and I once had the opportunity of inquiry into Troxler’s standing amongst his Bernese colleagues and into the results of his initiative. The detailed History of the University had only one thing to say about Troxler: that he had caused much disturbance in the university! That had been remembered and recorded, but we could find nothing about his significance for science.

• * See diagram 1 at end of book
• * See diagram 2.
• † See diagram 3.
• ‡ See diagram 4.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE II

Let us now continue our inquiry on the lines already laid down, and attempt to elucidate the nature of man by observing certain Polarities governing the human organism. Yesterday we found ourselves obliged to combine the weighing down forces found in the animal with certain vertical forces to form a parallelogram, and to consider an analogous phenomenon in the chemical reactions of the muscle. If these ideas are followed up in the study of the bone and muscular system and are supported by all the resources of practical experience, we might make Osteology and Muscular Pathology of greater value for medicine than has hitherto been the case. Special difficulties arise, however, if we try to connect the knowledge of man with the needs of medicine today, in our consideration of the heart. What in Osteology and Myology is only a slight defect becomes an evident defect in Cardiology. For, what is the common belief about the nature of the human heart? It is regarded as a kind of pump, to send the blood into the various organs. There have been intricate mechanical analogies, in explanation of the heart’s action—analogies totally at variance with embryology, be it noted! —but no one has begun to doubt the mechanical explanation, or to test it, at least in orthodox scientific circles.

My outline of the subjects for consideration in the next few days will afford piecemeal proof of my general point of view. The most important fact about the heart is that its activity is not a cause but an effect. You will understand this if you consider the polarity between all the organic activities centring round nutrition, digestion, absorption into the blood, and so on: follow, passing upwards through the human frame, the process of digestion up to the interaction between the blood that has absorbed the food, and the breathing that receives air. An unbiased observation will show a certain contrast and opposition between the process of respiration and the process of digestion.

Something is seeking for equipoise; it is as though there were an urge towards mutual saturation. Other words, of course, could be chosen for description, but we shall understand each other more and more. There is an interaction in the first place between the liquified foodstuffs and the air absorbed into the organism by breathing. This process is intricate and worth attention. There is an interplay of forces, and each force before reaching the point of interplay accumulates in the heart. The heart originates as a “daming up” organ (Stauorgan) between the lower activities of the organism, the intake and working up of food, and the upper activities, the lowest of which is the respiratory. A damming up organ is inserted and its action is therefore a
product of the interplay between the liquefied foodstuffs and the air absorbed from outside. All
that can be observed in the heart must be looked upon as an effect, not a cause, as a mechanical
effect, to begin with. The only hopeful investigations on these lines, so far, have been those of Dr.
Karl Schmidt, an Austrian medical man, practising in North Styria, who published a contribution
to the *Wiener Medizinische Wochenschrift* (1892, No.15), on “The Heart Action and Curve of the
Pulse.” The content of this article is comparatively small, but it proves that his medical practice
had enlightened the author on the fact that the heart in no way resembled the ordinary pump but
rather must be considered a dam-like organ. Schmidt compares cardiac action to that of the
hydraulic ram, set in motion by the currents. This is the kernel of truth in his work. But we need
not stop short at the mechanical aspect if we consider the heart action as a result of these symbolic
interpenetrating currents, the watery and the airy. *For what is the heart after all? It is a sense
organ, and even if its sensory function is not directly present in the consciousness, if its processes
are subconscious, nevertheless it serves to enable the “upper” activities to feel and perceive the
“lower.”* As you perceive external colours through your eyes, so do you perceive, dimly and
subconsciously through your heart, what goes on in the lower abdomen. The heart is an organ for
inner perception.

The polarity in man is only comprehensible if we know that his structure is a dual one and that
the upper portion perceives the lower. The following too must be considered: the lower
functions—one pole of the whole human being—are considered through the study of nutrition and
digestion in the widest sense, up to their interaction with respiration. The interaction goes on in a
rhythmic activity; we shall have to consider the significance of our rhythmic system later. But
linked up with and belonging to the respiratory activity there is the sensory and nervous activity,
which includes all that appertains to external perception and its continuation and its being worked
up in the nervous activity. Thus, respiration and sensory and nervous activity form one pole of the
human organism. Nutrition, digestion, and metabolism in its usual sense, form the other pole of
our organisation. *The heart is primarily that organ whose perceptible motion expresses the
equilibrium between the upper and lower processes; in relation to the soul (or perhaps more
accurately in the sub-conscious) it is the perceptive organ the mediates between these two poles of
the total human organisation.* Anatomy, physiology, biology can all be studied in the light of this
principle; and thus light is thrown, and only thus, upon the human organisation. As long as you
do not differentiate between these two poles, superior and inferior, and their mediator the heart,
you will not be able to understand man, for there is a fundamental difference between the two
groups of functional activity in man, according to whether they pertain to the upper or the lower.
polarity.

The difference amounts to this: all the processes of the lower sphere have their “negative” so to speak, their negative counter-image in the upper. *The important point, however, is that there is no material connection between these upper and lower spheres, but a correspondence. The correspondence must be correctly apprehended, without search for or insistence on direct material connection.*

Let us take a very simple example: the tickling irritation which causes coughing, and the actual cough itself. In so far as they belong to the upper sphere their complementary counterpart in the lower sphere is diarrhoea. There is always a counterpart to every such activity. And the key to the understanding of man consists in the correct apprehension of these correspondences, with several of which we shall deal in the course of our study.

Furthermore, there is not only a theoretical correspondence, but, in the healthy organism, an actual close contact between upper and lower spheres. In a healthy organism this contact is so close, that any upper function, whether it be associated with respiration or with the nerves and senses, must somehow govern a function of the lower sphere and proceed in harmony with it. This will immediately arises an organic irregularity, whenever there is a predominance of either the upper or the lower function, which destroys its complementary equilibrium. There must always be a certain proportion and correspondence between these two sets of activities, so that they complete one another, proceed harmoniously as they are mutually orientated. For there is this definite orientation. It is individually different in individual human beings, but nevertheless it governs and relates the whole of the upper processes to the whole of the lower.

Now we must be able to find the bridge leading from the healthily functioning organism, (in which the upper sphere correspond harmoniously with the lower) to the diseased organism. In describing a disease one may start from the indications in what Paracelsus called the “Archaeus” and we call the “Etheric body”—or, if to avoid offending people who do not like these terms, you can also say you will speak in the first place of indications of disease in the functional or dynamic, i.e. of the first signs of a morbid condition. And if we speak of what is first indicated in the etheric body or in the purely functional, one can also speak of a polarity, but a polarity which bears within it a non-correspondence, an irregularity, arising in the following manner.

Let us assume that within the lower sphere, that is to say, the apparatus of nutrition and digestion in the widest sense, there is a preponderance of the inner chemical or organic forces of the food which has been eaten. *In the healthy organism it is essential that all the forces active and immanent in the foodstuffs themselves, which we examine and test in our laboratory work on these*
foodstuffs, should be overcome by the upper sphere, so that they do not in any way interfere with the efficiency of the inner sphere of the organism and that all activity from external chemistry and dynamics had been entirely overcome. But the upper sphere may be inadequate to the task of penetrating the lower, of thoroughly brewing, or I might say, etherising it—which is more exact—all through. The result is the transference into the human organism of a preponderant process which is foreign to the organism, a process such as normally takes place outside the human body and should not operate within that body. As the physical body does not at once bear the brunt of these irregularities, the first symptoms appear on the functional side, in the etheric body (Archaeus). If we wish to find a current term to designate certain aspects of this irregular function, we must call it Hysteria. We shall use the term Hysteria for the too great autonomy of the processes of Metabolism; and we shall learn later on that the name is not inappropriate.

Specific manifestations of hysteria in its narrower sense are nothing but this irregular metabolism raised to its culmination. In essence, the hysterical process, even in its sexual symptoms, consists of metabolic irregularities, which are external processing having no rightful place in the human body. That is, they are processes which the upper sphere has been too weak to master and control.

This is one pole of disease. If such morbid manifestations as are hysterical in character appear, we have to deal with an excess of an activity that belongs to the external world, but is operating in the lower sphere of the human organism.

But the same irregularity of reciprocal action can also arise if the upper process does not take place in the proper way and occurs in such a way as to overstrain the upper organisation. This is the opposite, and in some sense, the negative of the lower processes. It is not that the upper processes are over-stimulated; they cease, as it were, before the mediating action of the heart transmits them to the lower sphere. This type of irregularity is too strong spiritually, too organically-intellectual, if I may use such a term, and show itself as Neurasthenia. This is the other pole. We must keep these two irregularities of the human organism clearly before us—they remain still in the realm of mere functions, they are two defects, expressed respectively in the upper and the lower sphere. And we shall gradually have to learn that the human polarity tends towards either the one or the other deficiency.

Neurasthenia is a functional excess of the upper sphere. The organs of that sphere are too much occupied, so that processes which should be transferred and conducted downwards through the heart, take place in the upper sphere and do not pass into the lower organic currents (harmoniously mediated by the damming up in the heart). You will observe that it is much more
important to become aware, so to speak, of the specific physiognomy of the disease than to study by post-mortems the organs which have become defective. For post-mortems reveal only the results and symptoms. *The essential thing is to form a comprehensive picture of the whole morbid condition; to visualise its physiognomy.* This physiognomy will always reveal a tendency in one or the other direction: towards the Neurasthenic or the Hysterical Type. But of course, we must use these terms in a wider sense than that usually accepted. If one has acquired an adequate picture of the interaction of the upper and lower spheres, one will gradually learn that irregularity manifesting functionally only in its initial stages—and therefore, as we should say, in the etheric sphere—becomes denser in its forces and takes hold of the physical organism. Thus, what was at first merely a tendency to hysteria, may take physical form in various abdominal diseases. And conversely, neurasthenia may develop into diseases of the throat or head.

The study of this imprint of what were originally only functional irregularities of neurasthenia and hysteria, will be of the utmost significance for the medicine of the future. If hysteria has become organic, there will be disturbances of the whole digestive process and all the other processes of the abdominal sphere. Such processes have their repercussions on the whole organism; we must be careful to bear these repercussions and reactions in mind.

Now let us suppose that a manifestation which would be undoubtedly hysterical, if it were manifested functionally, does not come to expression at all as a disturbance of function. It does not appear in the functional sphere; the etheric body imprints it immediately into the physical body. It is there, but it is not evident in any definite disease of the lower organs. We may say indeed that the organs bear the signature of hysteria. It has been driven into the physical organism, and therefore does not manifest by hysterical symptoms on the psychological plane; and it is not yet sufficiently pronounced to become an appreciable physical affliction. But it is strong enough to work within the whole organism. Thus we have this peculiar condition: something on the borderland, so to speak, between sickness and health influences the upper organic sphere from the lower. It reacts on the upper sphere and in some sense infects it, appearing in its own negative. *This phenomenon, in which so to speak, the first physical effects of hysteria affect those regions which, are subject to neurasthenia in their own typical irregularities, gives a tendency to Tuberculosis.* This is an interesting connection. The tuberculous tendency is a repercussion of the abnormal action of the lower body sphere on the upper, as has just been outlined. The whole of this remarkable interaction is set in motion by an uncompleted process which reacts on the upper sphere, and produces a tendency to tuberculosis. And it is necessary to recognise this primary tendency of the human organism before any rational antidote to
tuberculosis can be discovered. For the invasion of the human body by pathogenic bacteria is only a result of primary tendencies such as I have described.

This does not contradict the fact that tuberculosis is infectious under certain conditions. Of course these conditions are a necessary prerequisite. But unfortunately this predominance of the activity of the lower organic sphere is alarmingly prevalent in present-day humanity, and this implies a disastrously frequent predisposition to tuberculosis.

The concept of infection, however, is none the less valid here. For any highly tuberculous individual affects his fellow beings and if any person is exposed to the sphere in which the tuberculous patient lives, then it may happen that the effect turns again into a cause. I have often tried to illustrate the relationship between primary causes of a disease and infection in the following analogy. Suppose that I meet a friend of mine, whose relations with other people do not in general touch me. He is sad and has reason to be so, for he has lost one of his friends by death. I have no direct relationship with this friend who has died, but I become sad with him at his sad news. His sadness is, so to speak, first hand and direct; mine arises indirectly, communicated through him. Nevertheless, the fact remains that the mutual relationship between me and my friend provides the pre-condition for this “infection.”

Thus both concepts—of primary origin and of infection—are justified, and are so especially in the case of tuberculosis. But they should be applied in a rational manner. Institutions for the treatment of tuberculous persons are often breeding grounds for tuberculosis. If tuberculous persons are to be collected and crowded together in special institutions, then these institutions should be dissolved and replaced by others as often as possible. There should, in fact, be a time limit for their dispersion and removal. For this disease has the peculiarity that its victims are extremely liable to secondary infections. A case which may be by no means hopeless, becomes serious if it is surrounded by severe cases of tuberculosis. For the present, however, I am merely referring to the specific nature of tuberculosis. And it offers a striking example of the interaction of various processes in the human organism. As you will observe, such processes are dominated by the polarity of the upper and lower spheres, which correspond to one another as positive and negative images. The particularly striking phenomena which lead to tuberculosis following the special organic constitution which I have indicated, may be followed up; and they reveal in their future development a general concept of the true nature of disease. Let us take the most frequent symptoms of an individual who is an incipient tuberculous case. Tuberculosis is in his future, and his present state prepares for it. We find perhaps that he coughs, feels pain in the throat and chest, and perhaps also in his limbs; there will be certain states of exhaustion and fatigue; and there will
be profuse sweating at night.

If we take all these symptoms together what do they mean? They are, first of all, the effect of those internal irregular interactions to which I have referred. And at the same time, they represent the resistance offered by the organism, its struggles against the deeper foundation of the disease. Let us take the simpler manifestation first. It is certainly not always and under all circumstances beneficial to attempt to stop a cough. It may even sometimes be necessary to stimulate coughing by artificial means. If the lower organic sphere cannot be controlled by the upper, the healthy reaction manifests as the irritation leading to coughing, in order to prevent the invasion of certain things which are undesirable. To suppress coughing as an invariable rule, may be deleterious, for the body will then absorb injurious substances. Coughing is the attempt to get rid of such substances, which cannot be tolerated under the prevailing conditions. Thus the tickling irritation which provokes coughing is a danger signal of something which is wrong in the organism, so that the need arises to repel the invaders, which could otherwise easily effect any entry.

What of the other symptoms, enumerated above? They too are forms of organic defence, ways of doing battle with the dangers which approach as the tubercular tendency. The pain in the throat and limbs simply proclaim the obstruction of those processes in the lower sphere, which are not adequately controlled by the upper. If the tubercular tendency is perceived in good time, it may be beneficial to support the resistant organism by moderate stimulation of the coughing, by stimulating the resultant phenomena—as will be indicated in the subsequent lectures—by appropriate diet, and even by stimulating the typical fatigue. Again, if there is marked emaciation, this too is only a form of organic defence. For if this emaciation does not take place, the process which develops is perhaps that activity of the lower sphere which the upper cannot control. The organism dwindles and loses weight, in order to defend itself by getting rid of those elements which cannot be controlled by the upper sphere.

Thus it becomes exceedingly important to study symptoms and cases in detail, but not in order immediately to prescribe a corpulency treatment for any one suffering from emaciation. For this emaciation may be highly beneficial, in relation to the actual organic conditions at the time.

An especially instructive characteristic of the incipient tuberculous subject, is the heavy loss of perspiration at night. This is a form of organic activity taking place during sleep, which should really take place during working hours, during full physico-spiritual awareness. But it does not do so, and is obliged to find expression during sleep. This is both a symptom and a method of defence. When the organism is relieved from spiritual occupation, it has recourse to the form of
activity manifest in “night sweats.”

To evaluate this fact properly, we must know something of the close connection between all the excretory processes and those activities which include soul and spirit. The constructive processes, the vital processes proper, are the foundation of the mere unconscious. Corresponding to the conscious soul and organic functions of our waking hours, are always processed of excretion. Even our thinking does not correspond to constructive cerebral processes, but to process of excretion, i.e. destruction. And night sweats are an excretory phenomenon which should be concurrent with a spirit and soul activity in normal life. But as the upper and lower spheres are not in correct interaction with one another, the excretory process accumulates and then takes place at night, when the organism is relieved from spirit-and-soul activity.

Thus you will see that a careful study of all the processes connected with growth and development in the healthy and the diseased human organism leads to the conclusion that there is an interaction between the phenomena of disease. Emaciation is one phenomenon. But in its relation to the tubercular tendency, it is part of the disease. Indeed I would say that the phenomena of disease are organically linked up. They constitute an ideal organisation. One such phenomenon belongs in a sense to another. Therefore it is entirely reasonable to come to the help of an organism—keeping to the example of incipient tuberculosis—which has not the strength to react adequately and to provoke from outside the necessary reaction, viz., that one form of disease is made to follow on another. The doctors of old enunciated this truth as a significant educational rule of medicine. They said: The danger of being a physician is that he must not only be able to cure sicknesses but must also provoke them. And in the same measure in which the physician is able to heal diseases he can also provoke them. The ancient world was more aware of these subtle interrelationships (through the atavistic power of clairvoyance) and they beheld in the physician a double power, who could smite with sickness, if he were of evil will, as well as cure. This aspect of medicine is associated with the need to provoke certain states of disease, in order to put them into a certain relation to others. Such conditions as coughing, pains in the throat and chest, emaciation, persistent fatigue, profuse nocturnal perspiration, all are symptoms of disease, yet they must sometimes be provoked, even though they are diseased.

This will naturally lead to the duty not to abandon the sick person when only half-healed, i.e. when the necessary phenomena have been provoked; for then the second stage of the healing process begins. We must not only see to it that the appropriate counter-reactions have taken place, but that these reactions are now cured and the whole organism restored to its proper way of functioning. Thus in tubercular cases, having stimulated coughing and pains in the throat, for
example, we must then pay heed to the processes of elimination; for there will then be always a tendency to constipation and stasis. It will be necessary to quicken the digestive function into a function of evacuation, even to the extent of stimulating diarrhoea. It is always necessary to stimulate diarrhoetic action, following on the provoked coughing, pains in the throat and similar symptoms. For we must not consider or treat manifestations of the upper sphere, as though confined to that sphere alone. We must often seek a cure through the processes of the lower sphere, even where there is no direct material connection, but merely a correspondence.

These correspondences deserve the most careful consideration. Let us take as an example the typical fatigue and exhaustion. I should prefer not to regard this fatigue as purely subjective, but as organically determined, as emerging always when the metabolic processes are not fully controlled by the upper sphere. Now if these conditions of fatigue have to be stimulated in the treatment of tuberculosis, they must be subsequently countered, at the appropriate moment, by means of a diet which activates the digestion. (We shall deal later with the special requisites of such a diet). Thus the person in question will digest his food better and more easily than usual.

Emaciation, similarly, should receive a dietary treatment, leading to a degree of fat formation which cushions the organs and their tissues. And the subsequent treatment of night sweating, after powerful stimulation, must be through the suggestion of activities in which there are spiritual efforts to be made; the patient makes efforts bound up with thoughts, which make him sweat until a normal perspiration is gradually regained.

It is obvious that if we first realise the correspondence between the upper and lower sphere in man, by a correct understanding of the cardiac function, then we can understand the first foreshadowing of the disease on the functional plane in the etheric body, as we have done in the case of Neurasthenia and Hysteria. Then we can pass on to an understanding of its imprints on the organic and physical structure, and finally to the physiognomy of the disease as a whole. This comprehensive image will enable us to stimulate the course of sickness in the direction of a more or less secondary disease, in order, when the time has come, to lead the whole process back to health.

Of course the worst obstacles to these therapeutic methods are external and social conditions; therefore medicine is to a large extent a social problem. On the other hand, the patients themselves offer grave difficulties, for they expect their doctors to “get rid of something”, as they often express themselves. But if we simply “get rid of” some existent condition, it may well be that we make their state worse than before. This must be taken into account; often one does make them worse than before, but they must then wait till the opportunity arises to restore
them to health once more. Before that can happen, however, as many of you can testify, they have only too often fled and ceased treatment!

So the proper study of both the sick and the sound human being convinces us that the physician must have a hand in the after-treatment if the whole treatment is to be of real value. And times of belief in authority and it should not be difficult to initiate such public efforts and emphasise their necessity. I must, however, beg your permission to observe that neither the individual patients nor the social conditions are always at fault. Sometimes members of the medical profession find it inopportune to follow up all the ultimate ramifications of disease, and are more or less satisfied if they have “got rid of” something.

You will observe that this correct perception of the role of the heart in the human organism is able to lead us gradually into the essence of the state of disease. It is, however, vital to note the radical difference between the activities of the lower organic sphere, which have to some degree overcome external chemical processes (but are yet at the same time somewhat like the upper activities)—and the upper activities which are opposed and polar to them.

It is extraordinarily difficult to define with organic dualism adequately, for our language has hardly any terms to indicate processes contrary to the physical and the organic. But perhaps you will understand clearly—and I shall not hesitate to come up against possible prejudices amongst you—if I try to elucidate this dualism with the following analogy. We shall deal in detail with the subject later on.

Let us think of the qualities proper to any sort of material substance, that is, the qualities essential to its working when absorbed into the lower sphere of the organism, e.g. through the digestion. But if I may use the expression—we can homeopathise, we can dilute the aggregate states of the substances in question. This is what happens if one dilutes in the way of homeopathic doses. Here something occurs which does not receive due attention in the Natural Science of today, for mankind has a strong tendency to abstractions. They say, for example, that from a source of light—for example, the sun—the light radiates in all directions, and finally disappears into infinity. But this is not true. No such form of activity vanishes into infinite space, but it extends within a certain limited orb and then rebounds elastically, returning to its source, although the quality of this return is often different from its centrifugal quality.* In Nature there are only rhythmical processes, there are none which continue into infinity. They revert rhythmically upon themselves. That is not only the case in quantitative dispersion, but also in qualitative. If you subdivide any substance, it has at first certain distinctive qualities. These qualities do not decrease and diminish ad infinitum; at a certain point, they are reversed and become their opposites. And
this intrinsic rhythm is also the foundation of the contrast between the upper and lower organisation. Our upper organisation works in a homeopathic way. In a certain sense it is diametrically opposed to the process of ordinary digestion, its opposite and negative. Therefore we might say that when the homeopathic chemist manufactures his minute dilutions, he thereby transfers the qualities which are otherwise linked with the lower organic sphere, into those which belong to the upper sphere. This is a most significant inner relationship and we shall discuss it in the ensuing lectures.

* See diagram 5.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE III

I PROPOSE to incorporate all the inquiries and requests I have received in the course of these lectures. Of course they contain repetitions, so I shall group the answers together, as far as possible. For it make a difference whether we discuss what has been asked or suggested, before or after a certain basis has been laid down. Therefore, I shall try, in today’s address, to establish such a basis for every future consideration, taking into account what I have had from you in the way of requests and suggestions. You will remember that we first considered the form and inner forces of the osseous and muscular systems, that yesterday we reviewed illustrative examples of the process of disease, and the requisites of curative treatment; and that we took as our starting point on that occasion, the circulation in the cardiac system. Today I shall describe the introductory principles of a conception that may be derived from a deeper study of human nature regarding the possibility and the essentials of healing in general. Special points will be dealt with in subsequent comments, but it is my intention to begin with these basic principles. If we examine the medical curriculum of today we shall find, roughly speaking, that therapeutics are dealt with concurrently with pathology, although there is no clear and evident connection between the two. And in therapeutics at the present time, purely empirical methods generally prevail. It is hardly possible to discover a rational cure, combining practice with sound principles, in the domain of therapeutics. We are also aware that in the course of the nineteenth century, these deficiencies in the medical conception led to what was termed the Nihilist School. This Nihilism laid all stress on diagnosis, was content to recognise disease, and on the whole, was sceptical as regards any rationale of healing. But in a purely rational approach to medicine, we might surely expect something suggesting lines of treatment to be given together with diagnosis? The connection between therapeutics and pathology must not be external only. The nature of disease must be recognised to such a degree that some idea can be formed from it as to the appropriate methods of the curative process. And thus the question arises: How far does the whole intricate web of natural processes admit of curative Media and curative processes? An interesting axiom of Paracelsus has often been quoted, to this effect: the medical man must pass Nature’s examination. But it cannot be maintained that the more recent literature dealing with Paracelsus has made much use of this axiom; for, if it had, there would be definite attempts made to unravel the curative processes from Nature herself. Of course, there are such attempts, in those processes of disease in which Nature herself gives counsel. But these examples are more or less exceptions,
for there have already been injuries of one kind or another; whereas a genuine study of Nature would be a study of normal processes. This leads to a further inquiry. Is there really any possibility of observing normal processes—in the current sense of the term—in Nature, in order to gather from them some conception of the healing method? You will immediately perceive the serious difficulty in this connection. We can of course, only observe curative processes in Nature, in order to gather from them some conception of the healing method? You will immediately perceive the serious difficulty in this connection. We can of course, only observe curative processes in Nature in a normal way, if diseased processes are normally present in Nature. So we are confronted with this: Nature’s examination and thus learn how to heal them? We shall try today to advance somewhat nearer to the answering of this question, which will be fully dealt with in the course of these lectures. But one can say at once in this connection that the path here indicated has been made impassable by the natural scientific basis of medicine as practised today. This means very “heavy going,” in the face of prevailing assumptions, for curiously enough, the materialistic tendency of the nineteenth century has led to a complete misconception of the functions of that system of the human organism with which we must now deal in sequence to the osseous, muscular and cardiac systems, viz. the nervous system. It has gradually become the fashion to burden the nervous system with all the soul functions and to resolve all that man accomplishes of a soul and spirit nature into parallel processes which are then supposed to be found in the nervous system. As you are aware, I have felt bound in the nervous system. As you are aware, I have felt bound to protest against this kind of nature study in my book Von Seelenraetseln (Concerning the Problems of the Soul). In this work, I first of all tried (and many empirical data confirm this truth, as well shall see) to prove, that only the processes proper to the formation of images are connected with the nervous system, whilst all the processes of feeling are linked—not indirectly but directly—with the rhythmic processes of the organism. The Natural Scientist of today assumes—as a rule—that the feeling processes are not directly connected with the rhythmic system, but that these bodily rhythms are transmitted to the nervous system, and thus indirectly, the feeling life is expressed through the nerve system. Further I have tried to show that the whole life of our will depends directly on the metabolic system and not through the intermediary of the nerves. Thus the nervous system does nothing more than perceive will processes. The nervous system does not put into action the “will,” but that which takes place through will within us, is perceived.

All the views maintained in that book can be thoroughly corroborated by biological facts, whereas the contrary assumption of the exclusive relation of the nerve system to the soul, cannot
be proved at all. I should like to put this question to healthy unbiased reason: how can the fact that a so-called motor nerve and a sensory nerve can be cut, and subsequently grown together, so that they form one nerve, be harmonised with the assumption that there are two kinds of nerves: motor and sensory? There are not two kinds of nerves. What are termed “motor” nerves are those sensory nerves that perceive the movements of our limbs, that is, the process of metabolism in our limbs when we will. Thus in the motor nerves we have sensory nerves that merely perceive processes in ourselves, while the sensory nerves proper perceive the external world.

There is much here of enormous significance to medicine, but it can only be appreciated if the true facts are faced. For it is particularly difficult to preserve the distinction between motor and sensory nerves, in respect of the symptoms enumerated yesterday, as appertaining to tuberculosis. Therefore reasonable scientists have for some time assumed that every nerve has in itself a double conduction, one from the centre to the periphery, and also one form the periphery to the centre. Thus each motor nerve would have a complete double “circuit,” and if the explanation of any condition—such as hysteria—is to be based on the nervous system, one has to assume the existence of two nerve currents running in opposite directions. You see: as soon as one gets down to the facts, one must postulate qualities of the nervous system directly contrary to the accepted theories. Inasmuch as these conceptions about the nervous system have arisen, access has actually been barred to all knowledge of what goes on in the organism below the nervous system, as in hysteria, for example. In the preceding lecture, we defined this as caused by metabolic changes; and these are only perceived and registered by the nerves. All this should have received attention. But instead of such attentive study, there has been a wholesale attribution of symptoms and conditions to “nerves” alone, and hysteria was diagnosed as a kind of vulnerability and disequilibrium of the nervous system. This has led further. It is undeniable that among the more remote causes of hysteria are some that originate in the soul: grief, disappointment, disillusion, or deep-seated desires which cannot be fulfilled and may lead to hysterical manifestations. But those who have, so to speak, detached all the rest of the human organism from the life of the soul, and only admit a genuine direct connection between that life and the nervous system, have been compelled to attribute everything to “nerves.” Thus there has arisen a view which does not correspond in the least with the facts, and furthermore offers no available link between the soul and the human organism. The soul-forces are only admitted to contact with the nervous system and are excluded from the human organism as a whole. Or, alternatively, motor nerves are invented, and expected to exercise an influence on the circulation, etc., an influence which is
entirely hypothetical.

These errors helped to mislead the best brains, when hypnotism and “suggestion” came into the field of scientific discussion. Extraordinary cases have been experienced and recorded, though certainly some time ago. Thus, ladies afflicted with hysteria completely mystified and misled the most capable physicians, who swallowed wholesale all that these patients told them, instead of inquiring into the causes within the organism. In this connection, it is perhaps of interest to remind you of the mistake made by Schleich, in the case of a male hysteric. Schleich was fated to fall into this error, although he was quite well accustomed to think over matters thoroughly. A man who had pricked his finger with an inky pen, came to him and said that the accident would certainly prove fatal that same night, for blood poisoning would develop, unless the arm was amputated. Schleich, not being a surgeon, could not amputate. He could only seek to calm the man’s fears, and carry out the customary precautions, suction of the wound, etc., but not remove an arm on the mere assertion of the patient himself. The patient then went to a specialist, who also declined to amputate. But Schleich felt uncomfortable about the case, and inquire early the next morning: and found that the patient had died in the night. And Schleich’s verdict was: Death through suggestion. And that is an obvious—terribly obvious explanation. But an insight into the nature of man forbids us to suppose that this death was due to suggestion in the manner assumed. If “death through suggestion” is the diagnosis, there had been a thorough confusion of cause and effect. For there was no blood poisoning—the autopsy proved this; but the man died, to all appearance, form a cause which was not understood by the physicians, but which must obviously have been deep-seated and organic. And this deep-seated organic cause had already—on the previous day—made the man somewhat awkward and clumsy, so that he stuck an inky pen into his finger, which is an action most people can avoid. This was a result of his awkwardness. But this external and physical clumsiness was concurrent with an increased inner power of vision, and under the influence of disease, he foresaw that his death would occur that night. His death had not the least connection with the fact that he hurt his finger with an ink-stained pen, although this was the cause of his sensations, owing to the cause of death which he carried within him. Thus the whole course of events is merely externally linked with the internal processes which caused the death. There is no question of “death through suggestion” here. He foresaw his own death, however, and interpreted everything that happened, so as to fit into this sentiment. This one example will show you how extremely cautious we must be, if we are to reach an objective judgement of the complicated processes of nature. In these matters one cannot take the simplest facts as a starting point.
Now we must pose this question: Does sensory perception, and all that resembles such perception, offer us any basis on which to estimate the somewhat dissimilar influences which are expected to affect the human constitution, through *materia medica*?

We have three kinds of influence upon the human organism in its normal state: the *influences through sense perception*, which then extend to the nervous system; the *influences working through the rhythmic system*, breathing and blood circulation; and *those working through metabolism*. These three normal relationships must have some sort of analogies in the abnormal relationships which we establish between the curative media—which we must after all take in some way from the external world of nature—and the human organism. Undoubtedly the most evident and definite results of this interaction between the external world and the human organism, are those affecting the nervous system. So we must ask ourselves this question: How can we rationally conceive a connection between man himself and that which is externally conceived a connection between man himself and that which is external nature; a connection of which we wish to avail ourselves, whether through processes, or substances with medicinal properties for human healing? We must form a view of the exact nature of this interaction between man and the external world, from which we take our means of healing. For even if we apply cold water treatment, we apply something external. All that we apply is applied from outside to the processes peculiar to man, and we must therefore form a rational concept of the nature of this connection between man and the external process.

Here we come to a chapter where again there is in the orthodox study of medicine a sheer aggregate instead of an organic connection. Granted that the medical student hears preliminary lectures on natural science; and that on this preparatory natural science, general and special pathology, general therapeutics and so forth, are then built up, but once lectures on medicine proper have begun, not much more is heard of the relationship between the processes discussed in these lectures, and the activities of external nature, especially in connection with healing methods, I believe that medical men who have passed through the professional curriculum of today, will not only find this a defect on the theoretical and intellectual side, but will even have a strong feeling of uncertainty when they come to the practical aspect, as to whether this or that remedy should be applied to influence the diseased process. A real knowledge of the relationship between the remedy indicated and what happens in the human body is actually extremely rare. So the very nature of the subject make a major reform of the medical curriculum imperative.

I shall now try to illustrate the extent of the difference between certain external natural processes and human processes, by means of examples drawn from the former category. I propose
to begin with what we can observe in plants and lower forms of animals, passing on from these to processes that can be activated through agencies derived from the vegetable, animal and especially the mineral kingdoms.

But we can only approach a characterisation of pure mineral substances, if we start from the most elementary conceptions of natural science, and then go on to the results, let us say, of the introduction of arsenic or tin into the human organism. But, first and foremost, we must emphasise the complete difference between the metamorphoses of growth in the human organism, and in external objects.

We shall not be able to escape forming some notion of the actual *principle of growth*, of the vital growth of and in mankind; and conceiving the same principle in external entities as well. But the difference here is of fundamental significance. For instance, I would ask you to observe a very common natural object: the so-called locust tree, *Robina pseudacacia*. If the leaves of this plant are cut off where they join the petioles, there occurs an interesting metamorphosis; the truncated leaf stalk becomes blunt and knobby, and takes over the functions of the leaves. Here we find a high degree of activity on the part of something inherent in the whole plant; something that we will provisionally and by hypothesis term a “force,” which manifests itself if we prevent the plant from using its normally developed organ.

Now, observe, further, there is still a trace in mankind of what is so conspicuously present in the simple growing plant. For instance, if a man is prevented for one reason or another, from using one of his arms or hands for any purpose, the other arm or hand grows more powerful, stronger, and also physically larger. We must bring together facts like these. This is the path that leads to the cognition of remedial possibilities. In external nature these trends develop to extremes. For instance, this has been observed: A plant has grown on the slope of a mountain; certain of its stems develop in such a way that the leaves remain undeveloped; on the other hand the stem curves round and becomes an organ of support. The leaves are dwarfed; the stem twists round, becomes a supporting organ, and finds its base. These are plants with transformed stems, whose leaves have atrophied.*

Such facts point to inherent formative forces in the plant itself enabling it to adapt itself, within wide limits, to its environment. The same forces, active and constructive from within, are also revealed among lower organisms in an interesting way.

Take, for example, any embryo which has reached the gastrula stage of development. You can cut up this gastrula, dividing it through the middle, and each half rounds out and evolves the potentiality with itself of growing its own three portions of the intestine—the fore, middle and
hind portion, independently. This means that if the gastrula is cut in two, we find that each half behaves just as the whole gastrula would have behaved. You know that this experiment can even be applied to forms of animal drawing on its internal formative forces to rebuild out of its own body the portion of which it has been deprived. We must point to these formative forces objectively; not as hypotheses, assuming the existence of some sort of vital force, but as matters of fact. For if we observe exactly what occurs here, and follow its various stages, we have this result. For instance, take a frog, and remove a portion in a very early stage of development, the bulk of the mutilated organism replaces the amputated portion by growing it again. A critic of a materialistic turn of mind, will say; Oh yes, the wound is the seat of tonic forces, and through these the new growth is added. But this cannot be assumed.

Suppose that it were the case, and I were to remove a part of an organism, and a new part grows on the site of the injury (b)* through the tonic force (c) located here; then the new growth should strictly speaking be the immediately adjacent part, its neighbour in the intact and perfect organism. Actually, however, this does not happen; if portions of the larval frog are amputated, what grow from the site of the injury are extremities, tails or even heads; and in other creatures antennae. Not, that is to say, the strictly adjacent parts, but those of most use to the organism. Therefore, it is quite impossible that the normally adjacent structure develops at the point of amputation through the specially localised tonic forces; instead, we are obliged to assume that, in these regrowths or repairs, the whole organism takes part in some way.

And so it is really possible to trace what happens in lower organism. A I have indicated the path to follow you can extend its application to all the cases recorded, and see in all of them, that one can only achieve a conception of the matter along this line of thought.

And in man, you will have to conclude, however, that things do not happen in this way. It would be extremely pleasant and convenient to be able to cut off a finger or an arm, in the certainty that it would be grown again! But this simply does not happen. And the question is: what becomes of those forces, growth forces, which show themselves unmistakable in the case of animals, when it comes to the human organism? Are they lost in it? Or are they non-existent?

Anyone who can observe Nature objectively knows that only by this line of inquiry can we arrive at a sound conception of the link between physical and spiritual in man. For the forces we learnt to know as plastic formative force, which mould forms straight from the living substance, are simply lifted out of the organs, and exist entirely in the soul and spiritual functions.

Because they have been so lifted, and are no longer within the organs as formative forces, man has them as separate forces, in the functions of soul and spirit. *If I think or feel, I think and feel by
virtue of the same forces that work plastically in the lower animals or the vegetable world. Indeed I could not think if I did not perform my thinking, feeling and willing with these same forces, which I have drawn out of matter. So, when I contemplate the lower organisms, I must say to myself; the power inherent in them, which manifests as a formative force, is the same as I carry within me; but I have drawn it out from my organs and hold it apart. I think and feel and will with the same powers that are formative and active plastically, in the lower organisms.

Anyone wishing to be a sound psychologist, whose statements have substance, and not mere words, as is usual today, would have so to follow up the processes of thinking, feeling and willing, as to show that the very same activities in the regions of soul and spirit manifest themselves on the lower level as plastic formative forces.

Observe for yourselves how we can achieve within the soul things we can no longer achieve within our organism. We can complete trains of thought that have escaped us by producing them out of others. Our activity here is quite similar to organic production; what appears first is not the immediately neighbouring, but one lying far removed. There is a complete parallelism between what we experience inwardly through the soul, and the external formative forces and principles of Nature. There is a perfect correspondence between them. We must emphasise this correspondence, and show that man faces the same formative principles in the external world, as he has drawn from his own organism for the life of his soul and spirit, and which therefore in his own organism no longer underlie the substance.

Moreover, we have not drawn these elements in equal proportions from all parts. We can only approach the human organism properly, if we have first armed ourselves with the preliminary knowledge outlined here. For if you observe all the components of our nervous system, you will find the following peculiarity: what we are accustomed to term nerve-cells (neurons) and the nerve tissue, and so forth, develop comparatively slowly in the early stages of growth; they are not very advanced cellular formations. So that we might reasonably expect these so-called nerve-cells to display the characteristics of earlier primitive cellular structures. Yet, they do not do so at all. For instance, they are not capable of reproducing themselves; nerve-cells, like the cells of the blood, are indivisible. Thus we find that in a relatively early stage of evolution, they have been deprived of a capacity that belongs to cells external to man. They remain at this stage. What has been paralysed in them, separates off and becomes the soul and spirit element. So that, in fact, with our soul and spiritual processes we return to what was once formative in organic substance. And we are only able to attain to this because we bear in us the nervous substances which we destroy or at least cripple in a relatively early stage of growth.
In this way we can approach the inherent nature of the nerve substance. The result explains why this substance has the peculiarity both of resembling primitive forms, even in its later developments; and yet of serving what is usually termed the highest faculty of mankind, the activity of the spirit.

I will interpolate here a suggestion rather outside the subject we are at present considering. In my opinion, even a superficial observation of the human head, with its various enclosed nerve centres, reminds one rather of lower forms than highly developed species of animal life, in that the nerve centres are enclosed in a firm armour of bone. The human head actually reminds us of prehistoric animals. It is only somewhat transformed. And if we describe the lower animal forms, we generally do so by referring to their external skeleton, whereas the higher animals and man have their bony structure inside. Nevertheless our head, our most highly evolved and specialised part, has an external skeleton. This resemblance is at least a sort of *leit-motif* for our preceding considerations.

Now let us suppose that we have occasion, because of some condition that we term disease, (I shall deal with this in more detail later) to bring back into our organism what has thus been removed. If we replace or restore these formative forces of external nature—of which we have deprived our organism because we use them for the soul and spirit—by means of a plant product or some other substance used as a remedy—we thereby reunite with the organism something that was lacking. We help the organism by adding and returning what we first took away in order to become human. Here you see the dawn of what can be termed the process of healing: the employment of those external forces of nature, not normally present in man, to strengthen some faculty or function. Take as an example—purely by wary of illustration—a lung. Here too we shall find that we have drawn away formative principles to augment our soul and spiritual powers. If we discover among the products of the vegetable kingdom, the exact forces thus drawn from the lung and re-introduce them in a case of disturbance of the lung system, we help to restore that organ’s activity. So the question arises; *which forces of external nature are similar to the forces that underline the human organs and have been extracted in the service of soul and spirit?* Here you will find the path, leading from the method of trial and error in therapy, to a sort of “rationale” of therapy.

In addition to the errors fostered in respect of the nervous system—which refers to the inner human being—there is another very considerable error, regarding extra-human nature. This I will just touch on today and explain more fully later.

During the age of materialism, people accustomed themselves to think of a sort of evolution of
natural objects, form the so-called simplest to the most complex. The lower organisms were first studied in their structural evolution, then the more complex; and then attention was directed to structures outside the organic realm, that is in the mineral kingdom. The mineral kingdom was envisaged merely as being simpler than the vegetable. This has led to all those strange questions and speculations, concerning the origin of life from the mineral kingdom, a changing over of substance occurring at some unknown point in time, from a merely inorganic to an organic activity. This was the *Generation Aequivoca* or spontaneous generation, which provoked so many controversies.

However an unbiased examination certainly does not confirm this view. On the contrary, we must put the following proposition to ourselves. In a way, just as we can conceive of a sort of evolution from plant life on through animal life to man, so it is also possible to conceive of another evolution, from organisms, in this case, plants, to the minerals, inasmuch as the latter are deprived of life. As I have said, this is only a hint which will be made clearer in later lectures. But we shall only avoid going astray here, if we do not think of evolution as ascending from the mineral through the vegetable and animal forms, to mankind; but if we postulate a starting point in the centre, as it were, with our evolutionary sequence ascending from plant through animal life to man, and another, descending to the mineral kingdom.

Thus the central point of departure would lie not in the mineral kingdom, but somewhere in the middle kingdoms of nature. There would be two trends of evolution, an upward and a downward. In this way we should come to perceive, in passing downwards from plant to mineral, and especially—as we shall see—to that particularly important mineral group, the metals, that in this descending evolutionary sequence, forces are manifest which have peculiar relationships to their opposites in the ascending trend of evolution. In short: what are those special forces inherent in mineral substances, which we can only study if we consider here the formative forces which we have studied in lower organic forms, and apply the same methods?

In mineral substances such formative forces manifest themselves in *crystallisation*. Crystallisation reveals quite definitely a factor in operation on the descending line of evolution that is in some manner interrelated—but not identical—with that which manifests as formative forces on the ascending line. Then if we bring to the living organism that force which inheres in mineral substances, a new question arises. We have already been able to answer a previous and similar inquiry; if we restore the formative forces that we have absorbed from our organism by our soul and spiritual activities, by means of vegetable and animal substances, we help the organism thus treated. But what would be the effect of applying these other, different,
forces coming from the descending evolutionary line, that is from the mineral world, to the human organism? This is the question which I will put to you today, and which will be answered in detail, in the course of our considerations.

But with all this, we have not yet been able to contribute anything of real help to the question at the forefront of our programme for today, viz: Can we gather by careful listening a healing process straight from nature itself?

Here it depends on whether we approach nature with real insight—and we have attempted to get at least an outline of such understanding—whether certain processes will reveal their inherent secret. There are two processes in the human organism—as also among animals, which are of less interest to us at the moment—which appear in a certain sense directly contrary to one another, when looked at in the light of the concepts with which we are now equipped. Moreover these two processes are to a great extent polar to one another; but not wholly so, and I lay special stress on this not wholly, so please bear it in mind to avoid misconstruction of my present line of argument. They are the formation of blood, and the formation of milk, as they take place in the human body.

Even externally and superficially these processes differ greatly. The formation of blood, is, so to speak, very deep seated and hidden in the recesses of the human organism. The formation of milk finally tends towards the surface. But the most fundamental difference is that the formation of blood is a process bearing very strong potentialities of itself, producing formative forces. The blood has the formative power in the whole domestic economy of the human organism, to use a commonplace expression. It has retained in some measure the formative forces we have observed in lower organisms. And modern science could base itself on something of immense significance, in the observation and study of the blood; but it has not yet done so in a rational manner. Modern science could base itself on the fact that the main constituents of blood are the red corpuscles, and that these again are not capable of reproducing themselves. They share this limitation of potentiality with the nerve-cells. But, in emphasising this attribute held in common, all depends on the cause; is the cause the same in both causes? It is not, for we have not extracted the formative forces from our blood to anything like the same extent as from our nerve substance. Our nerve substance is the basis of our mental life, and is greatly lacking in internal formative force. During the whole span of life from birth, the nerve substance of man is worked upon by or is dependent on external impressions. The internal formative force is superseded by the faculty of simple adaptation to external influences. Conditions are different in the blood, which has kept to a great extent its internal formative force. This internal formative force, as the
facts show, is also present in a certain sense in milk; for if this were not so, we could not give milk to young babies, as the most wholesome form of nourishment. It contains a similar formative potentiality as the blood; in this respect both vital fluids have something in common.

But there is also a considerable difference. Milk has formative potentiality; but lacks a constituent that is most essential to blood, or has it only in the smallest quantity. This is iron, fundamentally the only metal in the human organism that forms such compounds within the organism as display the true phenomenon of crystallisation.

Thus, even if milk also contains other metals in minute amounts, there is this difference: that blood essentially requires iron, which is a typical metal. Milk, although also potentially formative, does not require iron as a constituent. Why does the blood need iron?

This is one of the crucial questions of the whole science of medicine. The blood actually needs iron (we shall sift and collect the material evidence for the facts I have sketched today). Blood is that substance of the human organism, which is diseased through its own nature, and must be continuously healed by iron. This is not the case with milk. Were it so, milk could not be a formative medium for mankind, as it actually is; a formative medium administered from outside.

When we study the human blood, we study something that is constantly sick, form the very nature of our constitution and organism. Blood by its very nature is sick and needs to be continuously cured by the addition of iron. This means that a continuous healing process is carried on within us, in the essential process of our blood. If the medical man is “a candidate for Nature’s examination,” he must study first of all, not an abnormal but a normal process of nature. And the process essential to the blood is certainly “normal,” and at the same time a process in which nature itself must continually heal. And must heal by means of the administration of the requisite mineral, iron. To depict what happens to our blood by means of a graph, we must show the inherent constitution of blood itself, without any admixture of iron, as a curve or line sloping downwards, and finally arriving at the point of complete dissolution of the blood.* whereas the effect of iron in the blood is to raise the line continuously upwards as it heals. (yellow line).

There indeed we have a process which is both normal and a standard pattern to be followed if we want to think of the processes of healing. Here we can really pass Nature’s examination, for we see how nature works, bringing the metal and its forces which are external to mankind, into the human frame. And at the same time, we learn how the blood, which needs must remain inside the human organism, must be healed; and how what flows healed, but which if it has formative
forces, can wholesomely transmit them to another organism. Here we have a certain polarity—and mark well, a certain, not a complete polarity—between blood and milk, which must have attention and observation, for we can learn very much from it.

- * See diagram 6.
- * See diagram 7.
- * See diagram 8 (red).
SPIRITUAL SCIENCE AND MEDICINE

LECTURE IV

• THE DISCUSSION yesterday was certainly of absorbing interest, but I must enter a caveat in connection with a question that has just been handed to me. I must again—as on a previous occasion—emphasise that we shall only reach an adequate method of ascertaining the relationship between individual remedies and individual phenomena of disease, after having answered in these lectures certain preliminary questions.

• Only these can enable us to judge the significance of every fact we discover about the connection between man and that external nature from which our remedies are derived. In particular, until we have settled these preliminaries, we shall not find it possible to deal with the connection between specific remedies and specific organs, for the simple reason that the connection is a complicated one, and we can only appreciate its real point when we have answered certain preliminary questions. This we shall try to do today and perhaps also in part tomorrow. Then we shall be in a position to point out a definite connection between particular remedies and the disease of particular organs.

• I want to an introductory remark today and at once; and to ask you to accept it provisionally, because it throws light on many things.

• Regarding what was said in yesterday’s lecture, I should like to ask you to face the reverse side of the matter. In that lecture, many very instructive cases were cited of undoubted cures—and certainly we must feel deeply gratified at this result. But I can suggest a very simple means whereby these cures would become more and more infrequent, and of course, I only make this suggestion so that you do not use this means, although one might be led to use it. And I can, of course, only mention this amongst persons who have acquired a certain knowledge of Anthroposophy.

• The method referred to would consist in making every possible effort to make the Ritter therapy universally accepted. In face of successes of this treatment, you forget that you work as individual physicians. Possibly individuals among you may be aware of the struggle you have to wage against the majority of other doctors; and you may be aware that the moment you make Ritter’s treatment into an accepted university institution, you would cease to be a minority in opposition and that treatment would then be practised by many others—I will not go so far as to say by all. You would then find the number of your successful cures appreciably diminished.
• So strangely do things befall in real life; they are often quite different from what we have imagined.

• As individual medical men you have the greatest interest in healing the individual patient, and modern materialistic medicine has even—one might say—sought in this way a legal justification for its aim of healing the individual. But this justification really consists in the claim that there are no diseases; there are only sick, diseased people! Now, this justification would be valid if patients were really so isolated regarding their sickness, as appears to be the case today. But in actual fact, individual patients are not so isolated. The fact that certain dispositions of disease spread over a wide region, as was mentioned yesterday by Dr. E., is of great importance. After curing one case, you can never be sure of the number of other individuals to whom you have brought the disease. The single case of disease is not viewed as part of a general process, and therefore, taken one by one, the individual result may be most striking.

• But one who aims at the benefit of mankind as a whole must speak—if I may say so—from a different angle. This is the factor which requires not only a one-sided purely therapeutic orientation, but a completely worked out therapy on the basis of pathology. This is precisely what we here attempt to provide, bringing a certain rationale into what is otherwise merely an empirical thinking on a basis of statistics.

• We will start our inquiry today from a fact that is common knowledge, and can fundamentally help us to judge the relationship of man to external nature, but has not been given anything like due attention, in ordinary medical and biological thinking.

• This is that man as a threefold being, in his nerves and senses system, in his circulatory system (as a being living in rhythms) and finally in his circulatory system, has a certain negative relationship to the events of external nature, especially in the plant world. Please give your consideration to this: in external nature (let us consider only plants to begin with) there is in the flora a tendency at work to concentrate carbon; to make this substance the base of all vegetation. Inasmuch as we are surrounded with plants, we are surrounded with organic structures whose essential nature consists of carbon concentration. Do not forget that the same substance is also present in the human organism, but that it is essential to the organism to arrest this formation, to keep it, as it were, in a permanent status nascendi, of dissolution, and to replace it by the opposite substance.

• We have the initial stages of this process in what I have recently termed the lower human organism. We deposit the carbon and, begin, as it were, out of our own forces,
process of plant formation, and at the same time, we are compelled to fight against the process, at the urge of our upper organism. We cancel the plant formation by opposing carbon with oxygen, by changing it into carbon dioxide, and thus we develop in ourselves the process directly opposite to plant formation.

• I recommend you to give heed wherever these processes contrary to external nature are found. You will thereby reach a more fundamental comprehension of what man actually is. You do not understand man’s nature by weighing him—to take a symbolic example for all investigations by means of the methods proper to physics; but you will understand something about the mechanics of man immediately if you consider that the brain, as is well known, has an average weight of about 1,300 grammes, but that this full weight cannot press upon the lower interior surface of the cranium, for if it did, all the delicate network of minute veins in that region would be crushed and obliterated. The pressure of the brain on its base does not exceed twenty grammes. The cause is the well known hydraulic principle enunciated by Archimedes, that the brain become buoyant as it floats in the cerebro-spinal fluid, so that its total mass and weight are not effective but are counteracted by the surrounding liquid. And just as the weight of the brain is neutralised and we don not live within the physical weight of our organism, but within the buoyancy which is the force opposed to material weight—so is it with other human processes. In fact we do not live in what physics would make of us, but in that part of the physical that is neutralised or counteracted in us. And similarly we do not live in the processes observable as operative in external nature, which reach their final manifestations in the vegetable world, but we live in the cancellation of the plant formation process. This fact is of course an essential in building the bridge between the human organism in disease and remedies drawn from the vegetable world.

• This theme could be treated—so to speak—in the style of a poetical story. We could say: if we take in all the beauty of the vegetable world that surrounds us in external nature, we are entranced and rightly so. But it is otherwise if we cut open a sheep’s body and forthwith become aware of another kind of flora which certainly originated in a similar way to the flora of the external world.

• If we open the body of a freshly killed sheep and encounter the full force of the odour of putrefaction from its entrails, we most certainly feel far less pleasure in the existence of the intestinal flora. We must carefully note and consider this fact; for it is simply self-evident that the same causes which favour the growth of vegetation in external nature,
must be counteracted in man, and that the intestinal flora ought not to develop in us. Here we have a remarkably extensive field of research, and I would venture to recommend, as a theme for doctoral theses for younger student, to make use of this subject matter, and especially of comparative anatomical research, on the intestinal structures of various animal groups, through mammals up to man. As I say, a remarkable rich source, for much that is most significant here has not yet been investigated. Try particularly to find out why the opened sheep exhales so foul an odour of putrefaction by reason of its intestinal flora, whereas this is far from being the case in birds, even in carrion birds, whose bodies when opened smell comparatively pleasant. There is very much in these matters that has received no scientific study and research up till now. And the same is true of the comparative anatomy of the intestines. Think for a moment of the considerable difference in all birds from both the mammalia and mankind. (It is just here that materialists, for instance the Paris expert, Metchnikoff, have perpetrated the greatest errors). In birds there is a remarkably poor development of both bladder and large intestine; only in those groups which form the Ratties (the Ostrich and its relatives) does the colon begin to enlarge, and certain approximations to the bladder appear. So that we are led to the important fact that birds are unable to accumulate their excretions, retain them for a while within their bodies and then evacuate them as occasion offers; but on the contrary, there is a continuous equipose between what is taken into their bodies and what is evacuated from them.

• It is one of the most superficial views to regard the flora of the human intestine—and, as we shall see later, also the microscopic fauna found there and elsewhere in the human organism—as anything to be called the cause of sickness. It is really quite appalling, in the course of examining and collating the literature of pathology today, to find in every chapter the refrain: In cases of this disease we have discovered such and such a bacillus, in cases of that disease, another bacillus and so forth. Such facts are of great interest to the study of the botany and zoology of the human organism, but as regards the condition of disease they have at best only the significance of indicators; indicators enabling one to conclude that if this or that form of disease is present, the human organism thus affected offers appropriate soil for the growth of this or that interesting vegetable or animal micro-organism. They mean this, and nothing more.

• With the disease as such, this development of microscopic flora and fauna has only very little to do; and that little, only indirectly. For, I ask you to observe that the logic displayed in contemporary medicine today on these themes, is quite remarkable.
for example you discover a landscape, in which you find a number of extremely well fed and healthy looking cattle. Would it occur to you to say: all that you behold in this countryside is as it is, because the cattle have somehow descended from the air and have infected the district? Such an idea would hardly occur to you; rather will you be obliged to inquire, whey there are industrious people in this district, why the soil is specially propitious for this or that form of pasturage, and so on. You will for livestock, in your mental review; but you would never dream of propounding the theory that the countryside has been infected by an immigration of well fed cows! This however is exactly the train of reasoning displayed by Medical Science today, in respect of microbes, etc. ....

- These remarkable creatures simply prove, by their presence, that there is a certain type of medium or substratum favourable to them, and attention should accordingly be directed to the study of this substratum. Of course there may be indirect causes and external vegetable world, as much parts of the plants as their stems and leaves and blossoms.

- Here you get an idea of the kinship between what holds sway in flowers and foliage and that which works within yourselves when you develop an intestinal vegetation, which you deprive of formative powers, taking those powers away for your own use. For indeed, if you did not do this you would not be thinking being. You take away from your intestinal flora what the flora out in nature still retain.

- This is equally true of the fauna. It is impossible to correlate the nature of man with remedies from the vegetable world, without understanding what I have just said. Similarly until we realise that mankind has drawn away from his intestinal fauna the forces formative of animal life in external nature, we can get no right concept of the use of sera.

- So you can see that a system, a rationale in these matters, is only obtainable when we envisage the relationship of man to this environment. And I would draw your attention to another point that is curiously significant. I do not know how many of you some time ago noticed the most preposterous placards forbidding people to spit. As you know the purpose behind them was to combat tuberculosis. These prohibitory placards are absurd for the reason—which ought to be common knowledge—that the daily diffused light of the sun destroys the bacilli of tuberculosis in a very short time. If you examine a sputum specimen after a short time, it contains no more such bacilli. So that even if the assumption of current medicine were valid—this prohibition would be extremely absurd. Such prohibitions have significance for the elementary observance of cleanliness, but not for the widest aspects of hygiene.
• For the student who is beginning to estimate facts correctly, this is very important, for it indicates the inability of the kinsman of intestinal fauna or flora, the bacillus, to survive in the sunlight. Sunlight does not suit it. Where can the bacillus survive? In the interior of the human body. And why just there? It is not that the bacillus itself is the noxious agent, it is the forces active within the body that we must consider. And here is another fact that is ignored. We are continually surrounded by light; light—as you will of course remember perfectly from your study of science—has supreme importance for the evolution of the extra-human beings, and especially for the development of all extra-human flora. But at the border line between ourselves and the world outside, something very significant happens to light, that is, to something purely etheric; it becomes transmitted. And it needs must be transmuted. For, consider how the process of plant formation is held up in man, how this process is so to speak broken off and counteracted by the process that manufactures carbon dioxide. In the same way, the process contained in the life of light is interrupted in man. And so, if we seek for light within man, it must be something transformed, it must be a metamorphosis of light.

• At the moment of crossing the borderline of man inwards, we find a metamorphosis of light. This means that man does not only transform the common, ponderable processes of external nature within himself, but also the imponderable element—Light itself. He changes it into something different. And if the bacillus of tuberculosis thrives in the human interior and perishes in the full sunlight, it is evident—to a sound judgment of the fact—that the product of the light as transmuted within us, must offer a favourable environment to these bacilli, and if they multiply excessively, there must be something wrong with the product of transmutation, and thence we get the insight that amongst the causes of tuberculosis is involved that of the process of transmutation of light within the patient. Something occurs which should not occur, otherwise he would not harbour too many of the tuberculosis bacilli—for they are always present in all of us, but as a rule in insufficient numbers to provoke active tuberculosis. If they are too prolific, their “host” succumbs to the disease. And the tuberculosis bacillus could not be found everywhere, if there were not something abnormal in the development of this transmuted light of the sun.

• It will again be easy to work out an adequate number of doctoral theses and scientific papers on this. Empirical material gleaned from observation, will pour on you in floods, in corroboration of views which I can only offer here in mere outline.
What happens if a human being becomes suitable soil for tuberculosis bacilli is that either he is not constitutionally capable of absorbing sunlight, or he does not get enough sunlight to absorb, owing to his way of life. Thus there is not an adequate balance between the amount of sunlight he receives from outside, and the amount he can transmute; and this forces him to draw reserves from the already transmuted light stored up within him.

Please pay particular attention to this: Man, by the very fact of being man, has a continuous supply of stored and transmuted light within. That is necessary to his organisation. If the mutual process, enacted between man and the external sunlight, does not take place properly, his body is deprived of the transmuted light, just as, in cases of emaciation, the body loses fat which it needs. And in such cases, man faces the dilemma of either forcing his upper sphere to become diseased or of depriving his lower sphere of what he needs for the upper: that is of making his lower sphere sick, by depriving it of transmuted light.

You will gather from this that the organisation of man needs not only ponderable substances, derived from the external world and transformed, but that imponderable, etheric substances are also present within him, although in metamorphosis. Further you will conclude that these basic principles afford the possibility of building up a correct view, on the one hand, of the healing effect of the sun’s light: we can expose the human being directly to the sunlight, in order to regulate his disordered interrelation to the environing light. And, on the other hand, we may administer internally those substances that counteract the irregularity in the deprivation of transmuted light. We must counter-balance the deprivation of transmuted light, by means of what can be drawn from the remedial substances. There is the window through which you can observe the human organisation at work.

But now—you must excuse my somewhat undiplomatic expression, it is really objective, detached from sympathy or antipathy—everybody who observes the world must after a time acquire a certain anger against every use of the microscope, against every research on the microscopic scale: because microscopical methods are more apt to lead away from a wholesome view of life and its disturbances, than to lead towards it. All the processes actually affecting us, in our health and sickness, can be much better studied on the macroscopic then on the microscopic scale. We must only seek out the opportunities for such a study in the world of the macrocosm.

Let us return to the Birds. As a result of the absence of a bladder and large intestine,
these creatures possess a continual balance between nutrition and evacuation. Birds can evacuate their waste matter in flight; they do not retain it; they do not store it in themselves. They have no organs for such a purpose. If a bird were to accumulate and retain excretions, this would be a disease which would destroy it. In so far as we are human beings we have gone further than the birds on the evolutionary path, in the phrase that meets contemporary opinion; or—as would be a more correct statement—we have descended below the level of that order. For birds do not need to wage the vigorous war against intestinal flora which does not exist in them; this war is unavoidable in higher animals and mankind.

• But let us consider a—shall we say—somewhat more highly placed activity of ours; the metamorphic activity of the etheric element, the metamorphosis of light, as just described. In respect of these functions we are on the same grade as birds. We have a large intestine and a bladder in our physical organism, but in our etheric organism, in these respects, we are birds; these organs are actually absent in the dynamics of the cosmos. Therefore we are obliged to work up light as soon as we receive it, and to give forth the products by excretion. If a disturbance arises here, there is not corresponding organ for its operation. We cannot stand the disturbance without our health suffering accordingly. So when we observe the birds with their miniature brains, it becomes evident that in the macrocosmos they are replicas of our more subtle organisation. And if you want to study man with reference to this finer organisation which separates itself from his coarser organisation which has descended below the birds—then, my friends, you must study the processes of the world of birds macroscopically.

• Here I should like to interpolate a comment. We human creatures would be in a sad state, if in our etheric organism we had the same superiority over birds as we have in our physical; for the etheric organism cannot be enclosed and sequestered, in the same way, from the external world. If we possessed organ of smell receptive to the storage of transmuted light, the social life of mankind would be an appalling experience. We should have the same experience we get when we cut open a sheep and inhale the fumes of its entrails. Whereas, in actual fact, the etheric aroma of mankind, as perceived among ourselves, may be compared to the relatively far form disagreeable smell of a freshly killed carrion bird. Contrast this with what we smell if we open the body of a ruminant animal and even of such an animal as the horse, which is not a true ruminant although it has the tendency to become a ruminant in its organisation.
So what we have to do is to investigate the analogy between what happens in the external animal and vegetable worlds, and what happens in regard to the intestinal flora and fauna in the human organisation, which has to be combated and counteracted. And in deciding the relationship between any specific organ and any specific remedy, we must pass from the general definitions just given, to the particular definitions and descriptions of the following lectures.

Now pass from the reasons compelling us to combat the intestinal flora and fauna, inasmuch as within the circulatory function we find something that attacks the process of plant formation. Let us consider man’s nervous and senses system. This aspect of our nature is far more significant for its totality than is generally believed. Science has become so remote an abstraction, that it has not been realised how this nervous and sensory system, which is interpenetrated with light and the warmth inseparable from light, is linked up with the internal life. This is because the imponderable elements that enter the body with the light, must be absorbed and transmuted by our organs, and are forming organs in us, just as do the substances of the ponderable world. The special significance of the nerves and senses system for our human organism has been neglected.

But whereas, if we enter more deeply into the lower man we descend out of the formative force of intestinal flora into that of intestinal fauna, we come, if we ascend in man, out of the region where the intestinal flora is combated, into the region where there must be a continual combating of the tendency of man to become mineralised, to become sclerotic. You can observe externally in the greater ossification of the human head how the tendency towards mineralisation increases the more man develops upwards.

This tendency towards mineralisation is of great importance for our whole organisation. We must constantly recall—as I have done already in public lectures—that in dividing the human being into three systems, i.e. the head man, the trunk man and the limb man, we must be careful not to imagine that these three are external to one another within external spatial boundaries. Man is of course wholly head man, but qualitatively distributed. That which has its chief focus in the head, also extends over the whole man. The same is true of the other main system, circulation system, limb and metabolic system; they too, extend throughout man’s body. So the tendency to mineralisation, localised chiefly in the head, exists and must be counteracted all through the body. Here is a field of knowledge of which the contemporary student can no longer understand anything when he glances through the ancient treatises written in the light of atavistic
clairvoyance. For after all, only the smallest minority of those who trouble to read what Paracelsus writes of the salt-process, get any worth-while idea from it today. But the salt-process belongs to the region that I am now outlining, just as the sulphur process belongs to the region previously described.

- Man has an inherent tendency to mineralisation; just as the forces fundamental to the development of our internal flora and fauna can get “out of hand,” so also can the mineralising tendency. How is it to be counteracted? Only by shattering it; by, as it were, driving a perpetual succession of minute wedges into it. And here you enter the region where you have to pass from serotherapy through vegetable therapy to mineral therapy. You cannot do without this, as you only reach a starting ground for the support of all that needs support, in man’s struggle against mineralisation, against general sclerosis, in the interaction between the minerals and those human substances which tend themselves to become minerals. It does not suffice simply to introduce the mineral, in its crude state as found in the external world, into the human organism. The right method would indicate some form of the homeopathic principle. For it is precisely from the mineral kingdom that we must set free the forces opposed to the action of the external forces of that kingdom.

- It is a sound comment (and one already made) that we have only to turn our attention to the very slight mineral content of many medicinal springs, which have a remedial effect, in order to observe a conspicuous homeopathic process. This process shows that at the very instant in which we liberate the mineral components from their externally known forces, other forces emerge which can only be fully liberated through homeopathic dosage. This subject shall be given special consideration later on. But I would add the following consideration today; and address my remarks particularly to the younger members of my audience.

- Let us assume that you are making comparative investigations into the structural changes of the whole intestinal system, let us say from the fishes, through the amphibia to the reptiles—the conditions in the amphibia and reptiles in this respect, are most interesting—to the birds on the one side, and the mammals, and finally, man, on the other. You will find that remarkable changes of form occur in the organs. For instance, there are the Caeca, the equivalent of what has become the vermiform appendix in man; in the lower mammals, or, in bird groups which deviate from the normal type—the rudiments of the vermiform appendix appear. Or study the quite different way in which the great gut, which does not exist in fishes, evolves through the ascent of so-called more perfect classes,
into what we can recognise as the larger intestine (colon). Between this and the manner in
which caeca become what we recognise as the appendix in mankind, (certain species of
animals have several appendices) you will find a remarkable complimentary relationship.

- A comparative study should bring this interrelationship into sharp relief. Of course you
can put the question from the outside, as it were, and you know how often it is so put; why
is there such a thing as the vermiform appendix in mankind? Yes, that is often asked. And
if the question is raised, it is generally forgotten that man exhibits a duality, so that what
originates in the lower sphere has always complementary organ in the upper, and that
certain organs of the upper sphere could not evolve without their complementary organs,
almost their opposite poles, in the lower. The more the fore-brain approximates to the form
which it reaches in mankind, the more evolved does the intestine become in the direction
of the process of the depositing of waste material. There is a close correspondence
between cerebral and intestinal formation; if the great gut and the caecum did not appear in
the course of animal evolution, it would not be possible for men capable of thinking, to
arise on a physical basis; for man possesses the brain, the organ of thinking at the
expense—I repeat, entirely at the expense of his intestinal organs, and the intestinal organs
are the exact reverse side of the brain parts. You are relieved of the need for physical action
in order to think; but instead your organism is burdened with the functions of the highly
developed larger intestine and bladder. *Thus the highest activities of soul and spirit
manifested in the physical world through man, so far as they are dependent on a complete
brain formation, are also dependent on the equivalent structure of the intestine.*

- This crucially important inter-relationship throws much light on the whole way in
which nature works. For, however paradoxical, it is nevertheless permissible to say, that
man has a vermiform appendix in order that the may think like a human being. That which
shapes and reveals itself in the appendix, has its polar complement in the human brain. All
that is in one sphere has its analogues in the other. These are facts which must be acquired
once more through new methods of knowledge. We cannot merely echo the physicians of
antiquity, who based their doctrine on atavistic perceptions. That road will not lead us to
many results. We must reconquer these truths ourselves. And in that reconquest we shall
find the purely materialistic achievements of medicine, which are averse from such
associations, a real obstacle.

- For medicine and biology today, the brain is simply an internal organ and so are the
contents of the abdomen and pelvis; entrails, all of them. And thus they made the same
mistake a if they identified positive with negative electricity; just electricity, what is the difference? The mistake here is quite analogous but is overlooked. For, just as between positive and negative electricity there arise tensions which then seek their equilibrium, there is also perpetual tension within man, between the upper and lower organic spheres. And the control of this tension really comprises what we must search for in the field of medicine. This tension also manifests itself (I will merely indicate this today, but treat it in detail later) through the forces concentrated in two organs; the Pineal Gland and the so-called Pituitary Gland. In the pineal, all those forces are focused and marshalled which are contrary to those of the pituitary, the hypophysis cerebri, that is to those which are of the nature of the lower organic sphere. It is a mutual relation of opposing tensions. And if we were in the habit of forming an opinion of the state of this balance of tensions, from the general health of the individual case, we should have laid a very sound foundation for the remedial treatment to follow.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE V

AS WE go further into that special realm where pathology is to meet therapeutics and where, in a certain sense, we build a bridge between the two, we shall need to mention many things that can only remain a sort of ideal for treatment and cannot be everywhere fully applied. Nevertheless, if we had a comprehensive picture of all that matters in the treatment of disease, we should be able to select one or other particular point, and at least we should know how a fragmentary diagnosis of a given disease can be utilised.

First and foremost, we must consider the importance, even in the most special cases, of knowing the whole personality before us. This should include all the main data of the patient’s life. Some medical practitioners have given me their confidence, and discussed various topics with me, and I have often been amazed. My first question was: “How old is the patient?” and the practitioner could give no definite answer. He had himself formed no opinion on the patient’s age. As we shall see in the next few lectures, it is one of the essentials to know this, for therapeutics depend very much on the age of the person treated. The day before yesterday we heard it said of certain remedies, that while in some cases they were of extraordinary efficacy in others they failed.* Here arises the question whether there was any connection between the failure and the age of the patient under treatment. We must collect and collate very exact records concerning the influence of age upon the effect of remedies.

Then there is the factor of stature. We should always pay special attention to the stature and build of the patient—whether he is short and compact or tall and lanky. It is important to be able to judge, from differences in build, the forces inherent in what we term the etheric body of man. I have given much consideration to the possibility of avoiding these terms, which belong to the reality of man’s being; but it is impossible to do so, and presumably you would not wish to do so. Of course we could replace them by other terms that find more approval among those who are not Anthroposophists. Perhaps we shall be able to do so at the end of this course. Here and now, however, we shall retain this vocabulary for the sake of better understanding.

We can judge what I might term the intensity of the etheric body’s activity by the build and physique of the individual. One should wherever possible find out—(I will mention every factor, although often they cannot be considered for lack of the necessary data) whether in his youth the patient grew slowly or rapidly. All such facts are symptomatic of what we might term the action of the etheric body, or let us say, of the functional manifestations of the man in relation to his

* Here arises the question whether there was any connection between the failure and the age of the patient under treatment.
physical body. This must be taken into account if we want to perceive a connection between the man and his medical remedies.

Then we must find out the relationship of both physical and etheric bodies to the higher members of the human organisation, to what we call the astral body, (the soul proper) and the ego (the spiritual proper). So for instance we should ask the patient about his dream-life: does he dream much or little? An extensive dream-life is an extremely important constitutional peculiarity, for it testifies to a tendency of the astral body and Ego to unfold an activity of their own, and not to concern themselves very closely with the physical body, so that the formative forces of the soul do not flow down into the organic system.

Another question that should be put—although it may be “uncomfortable”—is whether the individual patient is fond of movement and exertion, or inclined to inertia. For personalities with the latter tendency have a powerful internal agility of their astral bodies and egos. This may appear paradoxical, but the activity referred to does not reach our consciousness. And for this very reason the individual is not consciously industrious, but, on the whole, lazy. For what I here define as the opposite of inertia is the organic capacity to grip the lower human sphere by means of the higher members, i.e., to transmit from the astral body and from the ego, into the physical and etheric bodies. Lazy people have very slight capacity of this kind. The lazy man is really, from the point of view of spiritual science, a man asleep.

Then we should inform ourselves about the patient’s eyesight: is he short-sighted or long-sighted? Short-sighted individuals have a certain reluctance of the astral body and ego to permeate the physical body, and short-sight is one of the chief symptoms of this reluctance.

I would offer a further suggestion which might some day be feasible. It would be most important in the treatment of disease, and, as I believe, could become valuable in practice if the various professions were to develop more social feeling. My suggestion is this: it would be most useful if dentists and dental surgeons were to use their knowledge of the dental system and all that is connected with it, that is, of the digestive system as well, so as to be able to offer a sort of diagram to their patients on each occasion of treatment or consultation. Of course the patients themselves must be persuaded to co-operate, but, with some social sense, this would perhaps be possible. On such a diagram the dentist would not the efficiency of all factors related to dentition, whether there was any early tendency to dental caries, whether the teeth have kept in good condition later life, and so forth. As we shall see during the next lectures, these matters are crucial for the correct judgment of the total human organisation. And if the physician who has to treat an isolated case of illness could obtain a summary of the patient’s state of health from the state of his
teeth in this way, the document would be an extremely important basis for the treatment.

Further, you should learn from the patients themselves their chief physical sympathies and antipathies. It is particularly important to know whether any person you propose to treat, has a keen appetite for salt, for instance. His most pronounced tastes in food should be ascertained. If he has a strong appetite for all saline flavours, we have to deal with a person in whom there is too close a connection between the ego and astral body on the one hand, and the physical and etheric bodies on the other. The affinity between his soul and spirit and his bodily organism is, so to speak, too complete. The same conclusion may be drawn from liability to vertigo—fits of dizziness following external mechanical movements, such as rapidly turning round. It should be noted whether a patient becomes dizzy easily following certain bodily movements.

Moreover, one ought to acquaint oneself—though this is very generally known—with every disturbance of elimination, with the whole glandular activity of the patient. Where there are irregularities of elimination there are also always disturbances in the interaction of ego and astral body with the etheric and physical bodies.

These are a few indications of what must be ascertained in the first consultation with any patient. They are chosen as examples, but you will perceive their general trend, in so far as the individual bodily constitution is concerned. Later on we shall discuss also the indications of habits of life, the access to good air, etc. These are rather matters for consideration under the special headings. But you have had an outline of the way to obtain a view of the sort of person you have to treat. For only when this is known in detail, will it be possible to judge how to administer or compose any remedy.

I should like to remind you of the general fact mentioned before that there is an inherent relationship between man and the whole non-human world. In Spiritual Science this relationship is often formulated in this, admittedly abstract, manner: in the course of evolution mankind has discarded and released the other natural kingdoms out of his own entity, and therefore external things retain a relationship to him. But in place of this abstract formulation, we shall have to point to repeated specific and concrete instances of the relationship in organo-therapy. Let us be clear, first of all, as to the actual basis of this remedial reaction of man to non-human nature.

You know that there is much controversy on this theme. As we shall explain more fully later, different methods of treatment are ranged against one another. On of these disputes is all too well known to the public; that waged by the advocates of homeopathy and of allopathy respectively. It might interest you to hear about the part Spiritual Science should take here. But its intervention is somewhat peculiar. I shall give a general statement regarding it now, but reserve the details for
later addresses. Strictly speaking, in the light of the results of Spiritual Science, there are no allopaths. There are in reality no allopaths because even what is described as an allopathic remedy is subjected within the organism to a homeopathic process, and heals only through and by virtue of this process. So that, in actual fact, every allopath is supported and helped in his characteristic methods, by the homeopathic processes of the organism under treatment. This carries out what the allopath forgets, the dispersion of the particles of the remedial substances. But, of course, there is a considerable difference, according to whether we relieve the organism of this homeopathic function, or not. This is simply because the curative process within us are associated with the condition of these remedies after they have been gradually homeopathised, whereas the organism has no curative interaction with the substances of the external world in their usual state. When these are taken into the body, they are “foreign bodies,” causing really awful disturbances and overloading if the body is burdened with the forces contained in allopathic dosages. We shall give special consideration to the cases in which it is impossible to relieve the organism of this homeopathic effort.

Homeopathic dosage has really up to a point been very carefully copied from Nature herself, although fanatics have often gone too far and jumped to conclusions. How can we find a way to the relationship between man and his non-human environment? As I pointed out yesterday, in another context, we cannot merely repeat what the physicians of old time have laid down, although an intelligent study of their works can be helpful. But we have also to investigate this interaction between the human and extra-human world with all the resources of modern science. And we must hold steadfastly to the knowledge that we cannot get much further by means of chemical research into various substances, that is, by consideration of the results of laboratory tests on such substances. This is a kind of microscopy; I have already suggested that this should be replaced by macroscopic observation of the Cosmos itself.

Today I have to put some significant facts before you which may to some extent show in what way the extra-human world corresponds in a sort of threefold division to the threefold nature of man. First of all, consider all soluble substances. Solubility is the last and latest attribute of special importance in the evolution of our planet. What has been deposited as the solid element is mainly derived from a cosmic process of solution which has been overcome and has deadened and thrown off the solid particles. But it is a purely external view to consider the planetary process as a merely mechanical deposit of sediment, and to construct geognosy and geology on this premise. Rather may we maintain that in the process of solution something is manifested that man has liberated from his own being, in so far as it occurs externally in the extra-human
nature. Something that man has set free is at work. So we must inquire what are the relationships between external processes of solution and the internal functions of our organism.

It is of fundamental significance, that certain individuals in whom the spirit and soul principle is too closely linked with the etheric and physical bodies, have an organic hunger or thirst for salt; that means that they tend to reverse the process of depositing salt. They want to cancel the process of earth-formation within their own bodies, and restore salt to an earlier, more primitive, state than that in which the earth has solidified. It is very important to include these connections in our view. They afford real insight into the connections between the human organism and external nature. We may conclude that our human nature has inherent in it an organic need to reverse certain processes that take place in the external world, to fight against them. As I pointed out yesterday, there is even a resistance to the force of gravitation, shown by the buoyancy that lifts and suspends the human brain. This resistance is a general tendency.

And what does this opposition to earth-solidifying forces mean? It means nothing less, in essence, than the liberation of the lower man from the soul and spirit principle, the expulsion of this principle from the lower sphere into the upper in the first instance. Thus in all cases where there is a pronounced appetite for salt, the lower organic sphere is striving somehow for liberation from the too potent activity of the soul and spirit within it, and trying, so to speak, to cause this activity to flow towards the upper organic sphere.

Let us assume disturbances of function in the lower sphere, disturbances that have been recognised as such. Later on we shall see how one can recognise the particular methods of finding out the diseases that result. What can we do about them?

Here I must interpolate a comment which may be of use to those who tend to be one-sided towards the use of mineral remedies. This antipathy is not justifiable. As we shall see, purely plant remedies can only be efficacious within very definite limits, and mineral remedies are of great service, particularly in more serious cases. So I ask you not to take offence, if I start from mineral remedies, from the efficacy of mineral remedies, however, which are incorporated within the realm of organic life.

You can throw a strong light on certain treatments of the human pelvis and abdomen, in relation to the upper organs, by studying the oyster; there is great significance in the oyster and the formative process of its shell. The oyster is encased in a covering of carbonate of time. Calcarea Carbonica; and it expels this substance from its body, to form the shell. You must accept a little help from Spiritual Science here; but if you study the oyster with this help, you will become aware that although this mollusc occupies a very low position in the animal world, its position in
the Cosmos is relatively high. For this reason: the force that man carries within him which manifests itself as his power of thought, is extruded form the oyster to form the shell. If the oyster could link up the formative forces that are conducted outwards with its actual organic growth, it would become a highly intelligent creature and be put on a very high level in the animal kingdom. The forces that pass outwards from the interior, show the path by which this potentiality is canalised, drained to the exterior. And you can see clearly, and, so to speak, tangibly, in the origin of the oyster shell, the operation of carbonate of lime. It operates to draw the excess of activity of the soul and spirit from the organism.

Suppose you find a case of superfluous and excessive activity of soul and spirit manifesting within the lower bodily sphere, as happens in certain forms of disease, which we shall describe in due course. You must have recourse to the remedy we owe to the shells of oysters or similar substances, which, through the mysterious forces of carbonate of lime work outwards from within. Something quite crucial in the treatment will therefore depend on comprehending that certain healing forces are active in this centrifugal tendency. All that is associated with the therapeutic properties of *Calcarea Carbonica* and similar substances can only be rationally understood, if viewed in this context.

All the forces inherent in phosphorus, e.g., are polar opposites to those in carbonate of lime. (The expressions I use in this connection are at least no less scientific, in their true significance, than much that today passes for science.) If all "saline substance" behave in such a way as to give themselves up to the environment, the reason is that all salts arise through deprivation and liberation of the corresponding substances from the inner workings of light and other imponderable elements. I might say that all that is saline has so repelled the imponderable elements through its very origin that they are alien to it.

Of phosphorus the exact contrary is true. Ancient atavistic knowledge was indeed not without justification in calling phosphorus the Light-bearer. Men saw that phosphorus does carry and contain that imponderable light. What salt repels and holds at bay, phosphorus carries within it. *Thus the substances at the opposite pole from salt, are those that appropriate, so to speak, the imponderable entities—principally light, but also others, for instance, warmth—and interiorise them making them their inner properties.* This is the basis of the remedial efficacy of all the qualities of phosphorus, and of all that is allied to phosphorus in its healing effect. Therefore phosphorus, in which the imponderable are internally stored, is especially conducive to bring in the astral body and the ego into closer relationship with the physical organism.

Let us suppose that you are consulted by a person suffering from some disease (we shall deal
with particular diseases later) in which there are particularly vivid and frequent dreams. This means that the astral body likes to separate from the physical, does so with ease, and goes about its own business. Moreover the patient tells you that he has a constitutional tendency to inflammations affecting the periphery of the organism. This is a further symptom showing that the astral body and ego are not settled properly in the physical. If these symptoms are found, you will be able to employ the force where with phosphorus grips its imponderables to make the astral body and ego occupy themselves more with the physical body. In persons who have restless and disturbed sleep, even in very different cases of disease, one can beneficially employ phosphorus, for it tends to restore and re-unite the astral body and ego to the physical and etheric bodies.

Thus we find phosphoric and saline substances, polar opposites in some measure. And I would ask you to bear in mind the cosmic roles played by these two groups, as of far more significance than—if I may say so—the individual names applied in modern chemistry to all the separate substances. In the course of our discussions we shall see how phosphorus can be used for healing purposes, in the form of related substances.

Here then you have, in external nature, two states which are polar to one another; that which acts in a saline manner and that which acts in a phosphoric manner. And between them, there is a third group: that which acts Mercurially. Just as man is a threefold being, a creature with nerves and senses, with a circulatory system, and with metabolism; and as circulation is the bridge linking nerves and senses to the metabolic functions; so also there is a mediatory function in external nature. It comprises everything that possesses, to a great degree, neither the saline character nor the character of interiorizing the imponderables, but—so to speak—holds the equipose between these two, by manifesting in the form of drops. For mercurial substances are essentially those which tend to assume the form of drops, by virtue of their inner combination of forces. This is the point which matters in all mercury substances, not whether they are known today under the name of quicksilver. The test of what is mercurial is the combination of forces whereby a substance is poised midway between the liquifying tendency of the saline, and the concentrating tendency in which imponderables are held together. So we must give special heed to the state of the forces that are the most evident in all mercurial substances. You will find accordingly, that these mercurial substances are mainly linked up with all that is calculated to bring about a balance between the activities for which phosphorus and saline substances are best qualified. We shall find that their effects upon the organism are not contradictory to the indications just given, when we deal specially with syphilitic and similar diseases.

In this sketch of the three groups, Saline, Mercurial, Phosphoric, I have presented to you the
most conspicuous mineral types. But in dealing with the saline group, we have already had to refer to an organic activity, as manifested in the formation of the oyster’s shell, which works behind the saline nature. Such an organic process is in a certain sense at work also when imponderables become concentrated in phosphorus. But as in that case, all depends on interiorisation, the process becomes less obvious externally. Now let us turn from the contemplation of these typical forms manifested in the external world, to other processes that have been segregated at a different epoch from man—viz., plant life.

As we have already recognised from a somewhat different point of view, the character of the plant represents the opposite of the activity proper to the human organism. But in the plant itself we can clearly differentiate between three kinds of manifestation. This threefold diversity strikes you very plainly, as you observe that which unfolds earthward to form the root and that which springs upward to send forth blossom, fruit and seed. The external direction in space as such indicates the contrast between the plant nature and Man (the animal must be left aside for the moment). This contrast in direction contains something of great significance and value. The plant sinks itself deep into the earth with its roots and stretches its blossom, its reproductive organs, upwards. Man is the direct opposite in his relation to the Cosmos. He sends his roots, so to speak, upwards, with his head, and he strives earthwards with his organs of reproduction. Thus it is not in the least unreasonable to picture our human frame as containing a plant, with its root sent upwards and its blossom opening downwards in the reproductive organs. For in a special way the plant nature is able difference in Man and animal in that the plant hidden in the animal lies horizontally, that is at right angles to the direction of the growing plants, while Man has completely turned round and has executed a semicircle of 180 degrees when compared with the plant. This is one of the most instructive facts for the study man’s relationship to the external world.

If our students of medicine would investigate such macroscopemic matters more closely, they would learn more of the forces operative, even, for instance, in the living cells, than through the methods of microscopy. For the most important forces that work even in the cells—and quite differently in plant, animal or man—can be observed and studied macroscopically. The human soul can be studied to much better effect, by observing the co-operation of that which extends vertically upwards and downwards, and that which lies in the balance of the horizontal. These forces can be observed in the macrocosm and re-operative even down into the cellular tissues. And what is active within the cells, is in fact nothing less than the image of this macroscoscopic working.
Let us consider the vegetation of the Earth; but not in the usual fashion, by wandering on the Earth’s surface to contemplate one plant beside another, examine it minutely in all its parts, invent a title of two or three separate names, and then list the plant in a system of classification. No: you must bear in mind that the whole earth is one single entity, and that the whole vegetable world pertains to the Earth’s organism just as your hair belongs to yours—(although with this difference, that hairs resemble each other closely whereas plants are various and differ one from another). You can no more regard the single plant as an independent organism than you can so regard the single hair. The cause of the variety among plants is simply this; the Earth in its interaction with the rest of the Cosmos develops different forces towards the most diverse directions, and in this way gives a different organisation to the plants. But there is a certain basic unity in the constitution of the earth, from which all plant growth derives. The following consideration is therefore important. To give an example; suppose you are studying mushrooms and fungi: for these the earth itself is, so to speak, the support and matrix. Pass higher up the scale to herbs; here, too the earth supports and nourishes, but forces from outside the earth have also influence in shaping their leaves and flowers: the force of light, for instance. And most interesting of all vegetable forms are the trees. Turn your attention to trees and you will recognise that the formation of their stems or trunks (by virtue of which trees become perennial) represents a continuation of what the whole earth is for the plant that nestles upon it. Please visualise this relationship of earth and plant. The herbal plant springs up out of the earth. This means that we must search in the earth itself for the forces fundamental to growth, which interact with the forces streaming on to our earth out of the Cosmos. But when a tree grows, do not, please, be too much shocked by what I say, for this is really the case—the earth rises up and grows, so to speak to cover over that which formerly flowed directly out of the earth into the herb-like plant. That shoots up into the trunk—and all tree trunks are really outgrowths of the earth. If we have forgotten this, it is because of that gruesome materialistic concept of today, that the earth is merely composed of minerals. People do not realise how impossible is the concept of a mineral earth! The earth has other forces as well as those which segregate into the mineral kingdom; it has the forces that sprout into vegetation.

These forces rise up out of the soil and become trunks. And all that grows upon the trunks is in a relationship to them comparable with that of the lower plant forms and herbs to the earth itself.

Indeed I would say that the soil of earth is itself the trunk, or main stem, of those lesser vegetable growths, and that the trees formed an extra trunk to carry their essential organs—blossoms and seeds. Thus you will observe that there is a certain difference as to whether I take a
blossom from a tree or from a herb-like plant.

Consider further the formation of parasitic plants, more especially mistletoe. In it you find the blossoms and seed organs which are normally united to the supporting plant, separated and stuck upon a stem like a process apart. Thus the formative process of the mistletoe represents an intensification of what is active in blossom and seed formation, and at the same time, in some sort a separation from the terrestrial forces. What is non-terrestrial in the plant emancipates itself in the formation of the mistletoe. We see that upward urge away from the earth, which interacts with extra-terrestrial forces, gradually liberate and separate itself in the efflorescence of blossom and fruit, and arrive at a remarkable individualisation and emancipation, in the mistletoe.

Bearing this in mind, together with the varied forms of plants you will admit that there must be considerable organic difference according as a plant tends most to root-development, its growth forces manifesting principally in the root, but its blossoms small or even atrophied. Such plants tend more towards the earth forces. Those plants which liberate themselves from the earth forces are those that give themselves up to the formation of blossom and seed, or, most of all, those that live as parasites upon others of the vegetable kingdom.

All plants tend to make some one organ particularly predominant. Take the pineapple, which tends to make its stem predominant, or indeed any other plant. Every principal organ of the plant, roots, stems, leaves, blossoms, fruit, becomes the chief and most conspicuous organ of this or that plant kind. Take for instance, Equisetum (the horse-tail), and observe the trend to become all stem. Other species, again, tend to become all leaves, others atrophy in stem and leaves, and merge completely in the formation of flowers.

There is a certain parallelism between these divergent tendencies in the vegetable growth and those three types of mineral activity in the external world that I have enumerated today. Let us consider the emancipatory tendency in plant—that urge which culminates in the activity of the parasitic species; here is something which tends to the interiorisation of imponderables. That which streams earthward out of the cosmos as imponderables is as definitely collected and conserved in blossoms and fruit, if blossoms and fruit prevail, as in the phosphor substance. So we may maintain that, in a certain sense, blossoms, seeds and all that tends towards mistletoe and other parasitic development in plants are “phosphoric.” And on the opposite pole we find that the root process which the plant develops by regarding the earth as its mother-ground is closely related to salt-formation.

Thus both these polarities face us in the world of the plant. And further: in the visible linkage, between the blossom the blossom and fruit process that extends upwards, and the downwards
anchorage in the earth, we have the mediating activity of the mercurial process.

Now, take into account the opposite placing of organs, in man and in the plant respectively. You must conclude that all substances tending inwardly towards the formation of flowers and fruit must be closely related to the organs of the hypogastrium and all those organs directed and orientated by them. All phosphoric substance must therefore have close interaction with these lower human organs. We shall presently confirm this. On the other hand, all that tends towards root development will be intimately connected with all organs of the upper organisation. On the other hand, all that tends towards root development will be intimately connected with all organs of the upper organisation. But of course you must bear in mind that we cannot make a simple and external threefold division of man’s body. On the contrary, for instance, much that appertains to the lowest organic region the digestive system, strives for its continuation as it were in the direction of the head. It is a complete, one might say a foolish error to suppose that the substrate substance of thought is mainly is given in the grey matter of the brain. This is not so. The grey matter serves principally to conduct nourishment to the brain. It is essentially a colony of the digestive tract, surrounding the brain in order to feed it, whereas the white matter of the brain is of a great importance as substrate substance of thought. You will find something in the anatomical structure of the grey matter which is much more linked with a more general function of the whole body, than with the function usually attributed to it. As you see, in dealing with digestion, we cannot restrict ourselves to the lower abdominal regions. Nevertheless, in considering what is derived from or connected with roots, we shall find a definite affinity with what can be applied to the upper organic sphere in man. And all those portions of plants that achieve the equipose between the blossom and fruit process, and the root process, and manifest in the common herbs through the leaves, will as a decoction have special influence on circulatory disturbances, that is on the rhythmic balance between the upper and lower spheres. Here then is the parallel between minerals that absorb and concentrate the imponderables, minerals that repel the imponderables, and the intermediate group, and the whole configuration of the plant.

This furnishes you with the first rational method (as indicated by the plant itself, in the respective development of this or that organ) of establishing a mutual relationship with the human organism. We shall see how this basic principle works in detail.

We have pointed out these mutual relationships between the vegetable, the mineral and the human. In recent times, there has been a very hopeful addition, in the suggested relationship and interaction between human and animal substances. But not only were the initial ventures in serotherapy carried out by curious methods; there are also objections to customary serotherapy, in
principle.

For when serotherapy was first introduced, Behring proceeded in a somewhat strange way. Those who merely followed the many speeches that were delivered, and publications that were issued, dealing with the mere fringe of the problem and with the results that were expected to come from the serum, received the results that were expected to come from the serum, received the impression that a thorough reform of all medical practice was impending. But after careful reading of the description of the actual learned—without exaggeration, as some amongst my audience can probably confirm—that this treatment based on tests with guinea pigs (as laboratory material), which it was proposed to extend to human subjects, had proved “successful” with a “remarkably large” number of guinea pigs. Actually, only one amongst the legions of these creatures treated with the serum showed a favourable result. I repeat, one single guinea pig in such a dressed-up test treatment, at a time when the big drum had already begun to beat in the cause of serotherapy. I cite this one fact, and I think some of you already know it well. And if I may so call it, this extraordinary intellectual slovenliness in scientific publicity deserves to be definitely recorded in the history of Science. To state in principle today what will be outlined in detail during the following lectures: —it is not the processes of the extra-human world that are superficially most apparent, that work most effectively in mankind, but those that must be discovered and extracted from the deeper levels of being.

*Mankind is actually related, in a certain way, to all that he has shed from his being: to the phosphoric process, and saline process, the blossom process, the fruit processes, the root process, the process of leaf formation: but in a reversed sense, bearing within him the tendency to cancel and change into its opposite that which manifests in external nature.*

It is not the same with animals. For the animal has already gone half the way towards mankind; man is not opposed in the same sense to the animal, but stands rather at right angles to the animal. He has reached an angle of 180 degrees from the plant. This is significant, and demands serious consideration when the question arises of the use of serum and similar remedies of animal origin.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE VI

I AM SOMEWHAT anxious about what I have to say today, for if I could spare three months in which to develop the aspects of my subject, it could not easily be dismissed as fantasy. But I must offer you a mere cursory introduction, within the limits of an hour, in order to make the following special problems of healing quite clear. Therefore much will seem without foundation. Nevertheless I will try to show in the presentation of the subject, that these matters are indeed well-founded—even better founded than those on which the natural science of today has been built.

Let us first consider the formative process of plants as such, in its relationship to the cosmos. We have already pointed out that in man the opposite process to that of plant formation is active in a functional sense. Therefore, in order to find the direct correspondence in man, we must at least indicate in outline the formative process of plants. As is apparent, there are two distinct and quite opposite tendencies in this process. One tendency is earthwards, and I have already suggested that in trees the main stem forms a rooted in the trunk, just as herbs and plants of lower types are rooted in the earth. There is this tendency of the plant towards the earth; but on the other hand, the plant has an impulse upwards, away from the earth. The plant strives to escape from the earth; not merely mechanically by virtue of a force opposed to the pull of gravity but also in its whole formative process, internal as well. The processes in the flower become different from those in or extra-telluric forces than the root. This dependence of the flower formation upon forces originating outside the earth must first be considered and we shall find that the same forces utilised by the plant to initiate the formation of flower and seed are also necessary to the human hypogastrum, because of the functional reversal of the plant process in man. They are utilised through the abdomen as well as in all functions of evacuation, secretion and the physical base of sex. So if we examine the complementary relationship of man and the plant, we find special correspondences to the extra-telluric as well as to the telluric.

Please notice here that what I maintain has not been derived from the medical works of the past, but is based entirely on contemporary spiritual-scientific research. I only try to use sometimes the terms of the old literature of medicine, as modern literature contains no suitable vocabulary. But it would be a complete mistake to suppose that any item of my course here is simply derived from archaic sources.

Observe the growth of the plant as it rises upwards out of the earth. You must take note of the
spiral sequence I the actual formation of the leaves and of the flower. You might say that the
formative forces follow a spiral course around the central stalk. This spiral course cannot be
explained by internal forces of tension in the plant. No; its origin is to be sought in the influence
that works form the extra-telluric sphere, and chiefly in the influence of the sun’s apparent path
through the heavens. (Let us say “apparent,” for the respective motions of earth and sun can only
be taken relatively.) There are indeed points of view better than the mathematics of Galileo, from
which to study the paths of the heavenly bodies; they trace themselves in the sequence of
formative processes in the plant. For what the stars do is faithfully copied by the plant.

It would be quite mistaken, however, to reckon only with the vertical upward impulse in plants,
that depends upon the sun. The stars co-operate in a resultant with movements caused by the
sun. If the sun’s action were the sole operating force, it would take complete possession, so to
speak, and the would be drawn upwards into the infinite.* The solar force is, however,
counteracted to some degree by that of the outer planets, in their spiral courses. For planets, as a
matte of fact, do not move in an ellipse; their orbits are spiral. It is time today that the whole
Copernican system was re-examined and superseded by another. The so-called outer planets are
Mars, Jupiter and Saturn. (Uranus and Neptune are only members of the solar system in an
astronomical sense; they do not really belong to it by origin; they are foreign bodies that have
become attracted and attached to our system. They are guests, invited to our planetary system, and
we are right to omit them.) The forces of the superior planets deflect the plant’s upward tendency,
so as to bank up the formative forces which would otherwise manifest in the spiral of the leaves
alone, and to cause the formation of flower and seed. So if you consider the plant’s upward
development, from the region of formation of the foliage, you must ascribe it to the combined
action of the Sun’s influence and that of Mars, Jupiter and Saturn.

There are not only these two elements in co-operation. Marshalled against them are the
influences from the Moon and the so-called inferior planets, Mercury and Venus. The Moon,
Mercury and Venus cause the earthward, downward tendency in the plant, which manifests itself
most characteristically in the formation of the root. Thus all that seems essentially earthy is really
a joint product of the action of the Moon and that of the inferior planets. So I would say that the
plant expresses and bears the imprints of our whole planetary system. Until we know this, and
learn also how to recognise the planetary manifestations in man as well, we cannot thoroughly
understand the relationship between the plant structure and the human structure.

Now consider the fact that plants with a prevailing tendency towards root-formation leave
much more ash when they are burnt than is left by plants that tend towards the formation of
blossoms or even by mistletoe and tree-plants. This difference is caused by the greater influence of the inner heavenly bodies. Moon, Mercury and Venus, on plants with great root development. And if you search in their ashes, iron, manganese, and silicon will be shown when any portion of the plant is used.

But if plants of the opposite type are exposed to the action of fire, there is but little ash. And in these different results of the same process of incineration, we have something I would describe as an external document of the plant’s relation to the whole cosmic order, and not to forces ruling on earth alone.

Now consider the plant world more closely. In the case of annual plants, growth stops abruptly at a certain season of the year with the formation of seed. As we have seen, seed formation is mainly governed by extra-terrestrial forces. But its course is interrupted and it is given over to the earth again. It must, as it were, continue at a lower stage in the new year, what had reached a higher stage in the old year. The course of plant life and growth is a remarkable one. Take the earth’s surface; the plant emerges from the soil, reaching out to its fullest extent towards the extra-terrestrial spheres. But then what has developed extra-terrestrially is sown again in the soil, and the cycle begins anew.* Thus every year the heavenly forces sink into the ground, mingle with the forces of the earth, and again complete their course. Year by year the seed of the flower is returned again to the root region, to complete the rhythmic cycle to which all plant life is subject.

This rhythmic cycle is proof that what we term the flora of earth is in truth a manifestation of the whole earth’s interaction with the extra-terrestrial cosmos. This interaction, therefore, is not restricted to the form of our planet, but extends to its internal chemistry and its whole system of organic life. Just as what is earthly in the mechanism in the form is overcome by the cosmic forces, so also is the terrestrial chemistry in plants overcome by the forces outside the earth; and when this overcoming has reached a certain point, the process must return again to earth and display earthly chemistry. From these facts it is not a far-fetched conclusion that the specific chemistry of the earth is revealed in the ashes; it is represented in the refuse, the dross of the living sphere. This dross and ash is subject to gravity, whereas the upward urge and growth of the plant is a continual conquest of gravity, and of other earth-bound forces, so that we may properly speak of a polar opposition between gravity and light. Light is that which continually overcomes gravity. *And the plant is, so to speak, set into the tension of this combat between light and weight, between that which strives towards ashes and that which strives towards fire.* And this polar contrast between what become ashes and what is revealed in flame, is the opposition of
ponderable and imponderable elements. There we have revealed the cosmic place and role of plant life.

What of man? We have already maintained that we shall not understand him aright, unless we recognise his polar orientation also. I have pointed out that the part that in the plant grows upwards from below, in man grows downwards from above; the sexual and excretory processes in man correspond to the flowers and seeds vessels, whereas his root formation points upwards. In man, however, it remains in the realm of functions; in plants it becomes a material process.

So man presents us with manifestations that are the direct opposite of those of the plant. In him we have not only the manifestations, but the bearer of them. So you must distinguish in man the function sending their roots upwards, and the functions tending downward; and as surrounding sheath of both, his material body, which in its turn has an upward tendency. That which happens artificially and externally in respect of plants—the removal from the upper sphere and implanting into the lower level—in man becomes a continuous process. In him there is a constant double current in every process from above downwards and from below upwards, and the relationship of these currents is the core of health and disease. We cannot begin to understand the complex processes in man, if we do not consider the facts I have just described. On the one hand is a material carrier working upwards from the earth, and on the other, something else, working from above downwards, is inserted into the carrier.

It is easy to see that the interaction of these forces determines health or disease in man, especially when, half in despair, so to say, one meets the most important fact, that the human organism has to be treated quite differently according to whether the upper region or the "sub-cardiac" regions are affected. They must be viewed according to quite different principles.

Let us cite an example; the relationship of common rickets to cranio-tabes, which to many people is quite mysterious. These two affictions seem so closely related if the human individual is viewed as a unity, whereas in truth they should be considered in the light of perfectly different principles, as they originate in regions of man that are polar to one another. This has an important bearing up in the healing process. Medical men who obtain certain favourable results in cases of rickets, through some form of phosphoric application, will probably fail completely in cases of cranio-tabes, which require an opposite therapeutic method, probably an application of some form of carbonate of lime. But this is a mere illustration of a truth that is quite general, though its statement is apt to be unwelcome. Where the treatment of human beings is in question in the domain of medicine, if is a fact that whatever remedy is prescribed, and whatever rule is laid down, their exact opposites may also be true and efficacious in certain cases. A very annoying
circumstance! It is perfectly possible to prescribe a thoroughly sound and effective method of treatment for such and such a case; and then if it is applied to what appear to be the very same symptoms, to find that it proves no remedy, and that the exact opposite must be applied. Thus it is always possible to meet, and even beat, one theory of treatment with another on the medical field; for most people are not aware that only one part of man can be treated remedially according to any one method, and that another region requires a different method. This is the pint we must grasp here.

Now let us carefully examine the sphere that in plants appears visibly separated in two, whereas in man it forms one aspect of his whole constitution. I referred to the three formative impulses which are in some degree inherent in external nature; the impulse to saline formation, the impulse to mercurial formation, and the tendency peculiar to certain substances such as phosphorus and sulphur, in conserve within themselves the imponderable forces, to become their carriers.

What is the difference between these three formative impulses of external nature, in so far as our present subject is concerned? All that is saline in its process tends to saline formation, leading our internal processes into the realm of gravity. Those who study the medical works of the past would do well to keep in mind, wherever they find references to the “salification” of substances, that by this process the substance in question is subjected to the force of gravity, and by the opposite process, the light process, it is liberated from gravity; that is, the imponderables are so liberated. Accordingly if we accept light as the representative of all other imponderable forces, we must conceive the whole of external nature as involved in the struggle between light and gravity, between the force that strives towards the extra-terrestrial and the force that makes earth’s substances tend towards the centre. We have here the polarity between light and gravity; and in between, that which perpetually seeks the balance between the two and manifests mercurially. For the mercurial element is simply something that continually seeks to maintain a state of equilibrium between light and gravity.

We have to visualise the place and office of the imponderables working between the saline, the phosphoric, and the mercurial elements in the whole cosmic scheme, i.e., in gravity, in the light forces, and in that which ever seeks an equilibrium midway between them. Now into the very centre of these mighty forces and tensions is placed in remarkable way the whole activity of our human heart. It is an appalling feature of the current natural-scientific view, that quite apart from the pump-theory, which is untenable, as I have already demonstrated, all heart functions are thought to be enclosed within the limits of the individual being’s skin. It is assumed that the heart
is somehow connected with the substances that pulsate rhythmically within the limbs of the body. But in truth, man with his organic system is inserted into the whole process of the universe, and the human heart is not merely an organ pertaining to his organism, but belongs to the whole world process. That tension of opposite forces which we have traced in the plant, that alteration and interplay of super-solar and infra-solar forces, is also manifest in man in the movements of the heart. The heart movements are not only an imprint of what takes place in the human heart you may see reflected as in a mirror, the whole process of the universe. Man is individualised merely as a being of soul and spirit. In other aspects of being, he is inserted into the universal process, so that, for instance, the beats of his heart are of that contest between light and gravity that fills the whole cosmic stage.

I have often had occasion to put this cosmic-human interaction before laymen, in a rough and obvious way, by means of the following calculation. Let us assume that the human being draws breath eighteen times in the course of one minute. In one day of twenty-four hours, this will amount to 25,920 breaths. Now take one day of human life and note further that there are 360 or 365 days in the year; assume that the human individual attains the average old age, that of seventy-one years (one may, of course, become much older). In that case we shall find as many days in the course of life, as there are breaths in one day of twenty-four hours: namely 25,915. Now take the path of the sun through the constellations of the Zodiac, the platonic year, namely, the time necessary for the point of sunrise to return to Aries at the Vernal Equinox; this amounts to 25,920 of our terrestrial years. Here you have a remarkable example in numbers of the human relation to the whole universe. The course of the sun through the heavens in the platonic year is expressed by the same number as the days of a human life. This is easily reckoned, but it points the way into profound depths of the foundations of the world. Bear in mind—as we have had occasion to stress in Anthroposophy—that in sleep the ego and the astral body of man leave the physical and etheric bodies, and that on awakening, they return to them again. Visualise these exits and re-entries as exhalations and inhalations of the soul and spiritual element by the physical body; you will find that there are 25,915 or 25,920 of such “breaths” in the course of a normal life (the difference of five is due to leap-year days), which obviously must represent a “day” in relation to some other rhythm. And again there must be something in the cosmos which is inserted according to the same numerical terms into the solar revolution. Here is a rhythm in world occurrences that manifests on a large scale; it manifests also in an individual human life, and in the function of respiration during a single day. You will no longer find it unaccountably strange that the ancient world, out of their old clairvoyance, spoke of the days and nights of Brahma, the
in-breathing and out-breathing of the world; for these ancients had found the breathing of heaven reflected in the mirror of the everyday life-process of man.

Because of these concrete facts, and not because of any sympathies or antipathies, we arrive at a true reverence for primeval wisdom. I can assure you that I should not reverence the ancient wisdom. I can assure you that I should not reverence the ancient wisdom. I can assure you that I should not reverence the ancient wisdom, had I not had the proof in countless cases, that we can re-discover today things already contained in it, things that had been lost and forgotten between the knowledge accumulated of old and that which we are now able to attain. The reverence for ancient wisdom that grows on the seeker after real knowledge is not the result of any vague general inclination, but springs from the comprehension of certain quite concrete conditions and facts.

If we are in quest of the forces akin to light, we must turn to the outer planets of our system, to Mars, Jupiter and Saturn. And as all that happens on earth is in some degree the effect of extra-terrestrial agents, we must look here for the effects of what happens in the cosmos. This leads us to examine the various substances in the earth, but not to look for the causes of their configuration or general consistency in the abstract and fantastic manner of the molecular physics and molecular atomic chemistry today. This atomic chemistry which looks, as it were, into what is impenetrable to our vision, into the inmost recesses of the constitution of matter, devises all kinds of fine guesswork about atoms and molecules. It then proudly talks of “astronomical recognition” of what goes on in the interior of material structure; or rather, it did so twenty years ago, and does so perhaps less often today. That was a subject of discussion some time ago; today these processes are photographed, as I mentioned in a recent public lecture, and in spiritualistic circles photography is also called in to depict—spirits!

Just as scientific investigators are disinclined to believe in “spirit” photography, so must they permit us, who see through these things from another angle, to reject their atomic photography as well. For the same delusion is at work here also.

In plants, it is not forces bound to atoms and molecules that we have to consider, but those that affect the earth by their impact from without, and permeate its substances. Not those tiny demons, the molecules and atoms, but the cosmic forces, shape the internal and external structure of matter. Let us take an example. Suppose that a planet in extra-terrestrial space is in an especially favourable position for working on a certain portion of our sphere. Assume Saturn to be the planet in question and that Saturn can best exercise its full influence when the direction of other planetary influences strike the earth as far away as possible from its own, and do not mingle with
nor deflect them:* i.e., when the Sun, Mars, and other bodies are not in or near a line from Saturn to the earth. Then the Saturnian force impinges directly on our planet. And if conditions are favourable in the portion of earth directly under Saturn’s influence, that unmixed and undeflected Saturnian influence causes a structure to be formed there, differing from that due to the action of Mars under similar conditions.

Earth’s substances are the combined result of forces from the stars. In the case cited as illustration, the effect of such action is shown in the production of lead. This is why we must associate certain substances in the earth—especially metals—with certain planetary positions in the extra-telluric universe. What the ancient wisdom of mankind offers us, can only be truly understood when it is discovered afresh. It is impossible for anyone accustomed to think in modern chemical and physical terms to read the ancient writings. This is shown by the following example. In a history of alchemy an extremely clever Norwegian scholar described a process, which, as he quite truly remarks, is mere nonsense according to modern chemical concepts, for it gives no result. It is process concerned with lead. But he failed to see that this process explained the process of seed formation! He referred the statements to a laboratory experiment, which, of course, made nonsense. He did not realise that the terminology of archaic alchemy must be transferred, so to speak, to another plane, and that many of its expressions must be read in a wholly different sense. Therefore he made nonsense of the passage. His opinion was, of course, both right and wrong. Thus we cannot but assume a relationship between terrestrial substances and the forces impinging on the earth form the surrounding world.

The study of metals in particular, on the lines indicated, leads to concrete relationships, so that we must ascribe their formations as follows. Lead results form the unimpeded action of Saturn, tin from that of Jupiter, iron form Mars, copper from Venus, and what is now termed quicksilver from Mercury. Similarly we must recognise a relationship between everything of the nature of silver, all that is silvery—I use this term with intention—and the unimpeded action of the Moon, was because of the Moon’s silvery radiance—will not fall into such an error. Moreover, the conception I have given leaves, as you will perceive, ample room for other substances than the six most distinctive metals (lead, tin, iron, copper, quicksilver and silver) to come into being through the combination of planetary forces. This joint action of planetary forces means that combine with the typical ones which we indicated. In this manner, the less representative metals originate. And in any case, earth’s wealth of metals is the result of forces acting on the earth from without. Here is the link between the workings of metals and the formation of plants. If you summarise the agencies contained in lead, tin and iron, you have there everything connected with flower and seed
formation in plants; inasmuch as these processes take place extra-terrestrially above the surface of the earth. And all that is of the nature of copper, silver or mercury, must be related to everything connected with the formation of plant roots.

As on the one side, the mercurial element acts as an equalising agent, you will certainly look for a corresponding equilibrium on the other side. The mercury element is the balancing factor between the telluric and that which is to some degree supra-telluric. But our whole universe is permeated with spirit. Thus another polarity arises. The terrestrial and extra-terrestrial poles represent the polar opposite of gravity and light. This offers only one possibility—the existence of a state of balance between the terrestrial and the extra-terrestrial elements. But there is another state of equilibrium between that which permeates all matter equally, whether it be terrestrial or extra-terrestrial, and matter itself; an equilibrium between the spiritual and the material, whether the latter be ponderable or imponderable. At every point of the material world, the balance must be held between it and the spiritual and equally so in the universe. For us, the first and nearest agency that holds the balance in the universe, is the Sun itself. The Sun holds the balance between the spiritual in the universe and the material in the universe. Thus the Sun has a twofold aspect; as a heavenly body it establishes order in the planetary system, but at the same time it maintain order among the forces that permeate the material system. Just as we are able to link the individual planets with the metals as I have already described, so can we also establish the relationship of the Sun to gold. The ancients actually prized gold, not for its material value, but on account of its relationship with the Sun, and with the balance between spirit and matter.

We should recognise that all that we divide and separate on earth, both in our thoughts and in our actions, in nature is actually united in some way or another. In our thoughts we separate what is subjected to gravity, and therefore tends to salt formation, from that which bears the light and is therefore akin to the workings of light; and we separate both these categories form what is contained in the state of equilibrium between the two. But in nature there are no such absolute divisions. All these ways of working are connected one with another, adjusted to one another, so that they form highly intricate constructions and one of these intricate structural systems is shown in the lustre of the metal gold; for it is through gold that the spiritual realm looks, as it were, right into the external world. This directs your attention to possibilities with which I will deal parenthetically—for you may be able to do fruitful work, by utilising in contemporary literature suggestions obtainable from ancient literature. In doing the scientific papers suggested yesterday, you will be able to make use of indications in the ancient literature, if you can understand it aright. Thus it is most important to notice how in old writings all these primary principles, salt,
mercury and phosphorus, were seen to be in every substance in different combinations, and to note
the diligence with which it was sought to liberate and extract these three principles from a given
substance. The ancients believed that lead was formed in the manner described above, but lead—
like gold or copper—contains all three principles, salt, mercury and phosphorus. So, in order that
we may be able to treat man with one or all these, we must be able to extract or separate it in some
way, from the substances with which it is united. In the chemistry of ancient times, the most
meticulous care was devoted to this process. It was found to be particularly difficult in the case of
gold, hence the Roman proverb which may well lead us to reverence the ancients: “Facilis est
aurum facere quam destruere” (it is easier to make gold than to destroy it). For they held that in
this metal, the three primary natural constituents, salt, mercury and phosphorus, were so firmly
united that to extract them from gold was hardest of all.

Now we must readily admit that we should not get much further in the matter today, if we took
the very same measures as the men of old times. But let us leave them, for we are dealing with the
methods and medicine of today, and only occasionally referring to the light thrown by the
past. Consider what we are now in a position to investigate. In order to extract the requisite
amounts of the three primary principles characterised yesterday and today, from the raw materials
of nature, it will be necessary to subject these to combustion, in order first, to isolate the fire-
bearing, light bearing parts, then to try to extract the mercurial portions so that the portions with a
saline tendency remain. These can be treated with some acid substance, which extracts them and
produces an effective saline therapeutic remedy, whether of vegetable or mineral derivation. I
shall give further details later on. Thus we shall either have to seek for the light-bearing
substances in nature, in order to get extra-terrestrial factors, or try to remove the extra-terrestrial
from earthly substances, and to retain the telluric; then we shall have a genuinely saline
residue. Or finally we can try to attain something midway between the two poles.

Here we have a choice of two paths, each different in kind, and each taking us part of the way
to our goal. We can take the standpoint of the ancient physicians, who always began by extracting
the essentially phosphoric, saline or mercurial from various substances, and then made use of the
result. In the opinion of these physicians, the specific action of the remedies they obtained
depended on the matrix from which they had been extracted. What was obtained from lead acted
differently from what was obtained from copper, for example. They laid most stress on
origin: salt derived from lead was essentially different from salt derived from copper. So that
when they spoke of salt, they knew that in it they had something common to all salts. Because it
was salt, it was of the earth, yet because salt derived from the various metals is something extra-
telluric, it has relationships to the most diverse parts of man. This we can consider in more detail in the next lecture.

This method is a possible choice, for instance, for the production of saline material in therapeutics. But there is the other way, chosen after the ancient method had ceased to work, and chosen in definite awareness of the fact that man is something more than a chemical apparatus. This way simply tries to take the substances as found in nature and to make available through “potentising” the forces hidden in them. This is the way chosen by Hahnemann’s school, representing a new departure in the whole of man’s medical researches. It left the archaic way, now blocked because of the ignorance concerning the extra-telluric and other relationships.

This is what causes—I would almost say—the despair of modern medicine: that people have ceased to pay attention to the extra-terrestrial that is really the basis of the earthly elements. The extra-terrestrial sphere is ignored and the earthly sphere is treated as all-sufficient. The homeopathic system strives to get beyond this: so does the “open-air treatment,” which uses light and air directly, because it has lost the secret of how to make right use of the light-bearer, phosphorus, and the air-carrier mercury. That of course is a third possibility. But a genuinely favourable and hopeful way will only be found when mankind has learnt, through spiritual science, the respective inter-relationships of the mineral, vegetable and animal kingdoms to extra-telluric forces. And as I indicated yesterday, the animal sphere is near—dangerously near-to mankind. The ancients, knowing this, set a boundary which we will investigate anew in the light of our later knowledge. They thought as follows: plants remain within the realm of the planetary system; minerals are also within that sphere: but with the animal kingdom we leave the planetary system, and deal with something much more serious. We may not deal here with things as though we were still within the planetary extra-telluric domain. Those forces that lead to the formation of animals, and further to that of mankind, lie scattered farther and wider in the universe than do those that shaped minerals and plants. And so the ancients traced the Zodiac in the heavens as a warning not to seek remedial forces beyond the boundary of minerals and plants; or at least to be aware that beyond is perilous ground.

But this perilous ground has been entered upon, as I have already begun to tell you in outline. This must be elaborated when we come to deal with pathology and serotherapy. The methods in question often bring starting results in individual cases, and arouse illusory hopes, completely masking the danger in the background.

- * See diagram 9.
- * See diagram 10.
• * See diagram 11.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE VII

I HAVE drawn your attention to certain fundamentals in human adaptation to telluric and cosmic conditions. The indications referred mainly to space, but we must relate space to time. For man must be considered as a whole; the whole human being is, so to speak, child, adult and old man, and is so organised that these three time-members of his being are present in every individual. The results of our present inquiry we shall have to combine with the results of supersensible research, and then we shall be in a position to proceed to more special studies.

Just as educational theory and practice for the young have to take note of the different epochs in the child’s life, i.e., from birth to the change of teeth; from this to puberty, and so forth, so also must medicine contemplate human life and constitution as a whole from birth until death. In dealing with this I shall begin by using the anthroposophical terminology familiar to us, and then consider how this vocabulary may best be rendered for a more unprepared audience. It will be easier for us to translate thus after having proceeded further in our inquiry.

It is most important to grasp that in childhood the functional content of both the ego proper and the astral body—to use our terms—has to be fitted into the human being. During the period of childhood, this functional content becomes fitted into the organism, so that later on it can really work with the supple and plastic organic substance. Therefore it can occasion no surprise that the disturbances associated with this permeation of the higher human elements into the lower, occur in childhood, especially from the seventh to the fourteenth, fifteenth or sixteenth year, for at this period the etheric body has to struggle for its right place in relation to the physical body, so that sexual maturity may come about. And there is a frequent risk of the elasticity of the physical and etheric bodies not coinciding. To equalise and balance these two comparative elasticities is in the main the duty of the astral body. If they do not work harmoniously together, the astral body often has to intensify its energies; and if its forces are insufficient for this extra call, morbid symptoms result, which must be met by external measures. And so you will find that in childhood there are forms of illness which break out in physical manifestations, as, for instance, in chorea. All diseases and disturbances culminating in this complex of symptoms, that is, accompanied by psychic disturbance, in addition to the organic manifestations, are linked up with the unaccustomed effort and strain on the astral body, in the task of bringing about an equilibrium between the elasticities of the etheric and the physical bodies.

If you observe in pregnant women symptoms of the same kind as in chorea, you will be well
able to understand their origin, for the harmony of elasticity in physical and etheric bodies is of course interfered with by pregnancy, and the astral body has to shoulder the same extra responsibility as fell to it in childhood. Therefore it will be necessary to reinforce and stimulate the whole range of the astral body’s activity in the illnesses peculiar to the early years of life, and sometimes synchronising with the pregnant state as well. We must see that the functions of the astral body are so directed as to act as a balancing factor between the elasticity of the physical and that of the etheric. (The necessary measures will be discussed in the lectures to follow.)

On the other hand and this is why I have emphasised the need of taking age into consideration—you will find that diseases tending to Polyarthritis and the like, generally appear from the fourteenth, fifteenth or sixteenth year, till the end of the twenties. In this period of life the astral body has to put itself into the correct relationship with the physical and etheric, and if it has not been adequately prepared for this by the necessary treatment in childhood, it will not be able to establish the correct relationship. The result will be the appearance of morbid symptoms, either in the period from the middle teens to the end of the twenties, or in the following period. The important point is, to give great weight to the time-factor in the study of disease, and—if I may express myself in a somewhat superficial manner—not to assume that nature has made the human organism with a special eye to our convenience, so that we may easily and conveniently read off from it the curative measures necessary. But the human organism has not been made with a view to ease and convenience in the discovery of cures. And there is too much inclination to assume that such is actually the case. Of course there is a certain truth in the axiom “Like is cured by like.” But it may happen that the main group of symptoms—which is taken to be the “Like” to be cured by “like”—has arisen in another period of life: for instance, a complex of symptoms may be present before the age of twenty, possibly provoked by external measures; and these same external measures which provoked the morbid process at the earlier age, may become a remedy, to some extent, after the twenties have been left behind.

In visualising the general health of any individual, we must bear in mind that man lives in two life-epochs, which are in some respects polarised. In youth he is under other influences than he is later on. The dominant influences in youth are those of the outer planets, Jupiter, Saturn and Mars, and in later life the titles already mentioned. But the earliest and most conspicuous influence of all is that of the Moon.

Thus we have to compete the consideration of Space by the consideration of Time. Only by these means can we learn correctly to estimate and appreciate certain phenomena of human life and constitution. We shall, when we go more into detail, give some indication of how to proceed.
if one wants to see the facts in the light of the true knowledge of man.

The influences that mould man begin their work before birth, and indeed even before conception. In the course of my investigations, I have often wondered why so many morbid processes have been described as “of unknown origin” in current medical literature; that is, as matters whose origin cannot accurately be determined. The cause of this uncertainty is the neglect of that whole complex of forces which we have recognised as extra-telluric, which is already at work while man approaches—not only his birth—but his own conception. Acting thus on man, they also provoke opposite reactions later on, so that certain processes that actually antedate conception, have reactions after conception or after birth. Sometimes it is only possible to observe and record the post-natal effects, which are a species of defensive reaction against what was present before conception in the whole system of nature.

These considerations apply particularly to all the processes of ossification and sclerosis. Not only sclerosis, but bone formation in itself, is a reactive process; both react to processes operative before conception. They are quite normal contrary or defensive reactions included among the formative forces and counteracting the processes of dispersal and diffusion that act in man before conception. It is extremely important to bear that in mind. It is impossible to control the tendency to sclerosis without reference to extra-telluric factors working from birth or from conception onwards, and without referring this tendency to an extra-human and extra-telluric process dating from before the time of conception.

All these processes are liable to go over a certain limit, to swing over their normal level, as it were. Ossification or sclerosis, e.g., swing towards a medium position, and can overleap it and become too strong. They then take the form of “dispositions,” which reveal much that is most significant in the inner being of man. When the particular factor that manifests itself normally in bone formation or sclerosis, and only becomes abnormal with advancing age, in its own sphere, swings over to the opposite half and works into other organs outside its proper sphere, then indeed we have a symptom that is the morbid antithesis of a pre-natal process, and that manifests in the various kinds of carcinoma formation.

It is only by including man’s whole course of being and becoming in our sphere of vision, that we can grasp these phenomena. For otherwise the development of carcinoma must always remain a mysterious factor in the life of man, if we cannot relate it to some process necessarily at work in man that exceeds its limits and invades other regions.

Another phenomenon can be considered in a similar way—the cases of hydrocephaly we often observe during childhood. We all have the tendency to become hydrocephalous, and this tendency
is a necessary one; otherwise we could never attain adequate development of our brain and nervous system. For these must, as it were, be formed from out of the fluid element present in man. Thus we can observe a prolonged struggle during childhood between hydrocephaly and another factor that enters the human organisation in order to oppose the hydrocephalous tendency. We ought to have definite term for this polar opposite, as well as for hydrocephaly itself; the opposite is a deficiency of liquid in the brain. It is neglected as a morbid condition today, but it is the antithesis of hydrocephaly. As young children, we oscillate perpetually between hydrocephaly and its unnamed antithesis which appears later on.

But we may be liable to overlook an important factor in Time, the exact moment, which always exists, even if not apprehended, in which the hydrocephalous tendency may be allowed to cease. (We shall deal later with the therapeutic aspect.) Ignoring this time factor, we may remove the hydrocephalous tendency too soon, either through education, or dieting, or special treatment in childhood, and especially in early infancy. Thus a normal tendency is obliterated too soon. And the results illustrate the harm of too short a view of the whole course of human life.

Legions of medical doctoral theses could be produced if adequate study were devoted to the association between these course of hydrocephaly in infancy and childhood, and syphilis, or the disposition to this disease in later life. The search for microbes is not really helpful here. Help and light come from consideration of the factors already mentioned. It would be of immense help to the prophylactic treatment of syphilis, if attempts were made to immunise man in earliest childhood against the forces that later on may manifest in the various symptoms of syphilis—for these are various, as we shall find.

In diagnosis it is particularly necessary to remember these relations, and to refer back to the proper causes, which lie in the whole process of man’s coming into being. Here is another matter of extreme significance. The whole organic process, as it were, advances against the heart, both from the upper bodily sphere, and from below upwards through the hypogastrium. The whole formative process of man presses towards the heart, from both sides; the heart is the barrier, or organ acting as a dam. This organic pressure on the heart takes place at different ages. Let us consider the symptoms, which appear at an early age and may reach a culmination in pneumonia or pleurisy in youth.

If we consider carefully all that contributes towards them, they will be perceived as a process that has been advanced, the same as that which in still earlier youth manifests itself as hydrocephaly. Hydrocephaly has simply been shifted downward in the body, and appears here as a disposition to pneumonia or pleurisy, together with all the effects related to these in childhood.
These manifestations in childhood have their contrary processes in later years; they may recur later on, but to so in their polar form. And in the case of Endocarditis, e.g., even in acute cases, the physician would do well to inquire whether there were any morbid symptoms at an earlier age, having any connection with pneumonia or pleurisy. And the lesson should be: beware of suppressing such phenomena as pneumonia and pleurisy in children by hasty and intensive treatment. Of course, it is obvious that parents and teachers are most anxious that such symptoms should vanish; but it is highly advisable to leave them to take their course. The medical man should watch over the case and avert possible harmful by-effects, but allow the process to “work itself out.” Particularly in such cases, a kind of “physical” treatment, or, as it is now termed. Nature-healing, is to be recommended; this may be desirable in other cases, of course, but in none more so than in diseases of the type of pleurisy or pneumonia during childhood. This means, one should try to ensure the most normal course of the process of disease; the course is neither accelerated nor stopped too early.

If such a process is shortened before the proper time, the result is a comparatively early disposition to cardiac diseases with all their accessories, especially a susceptibility to polyarthritis. So it is urgently necessary to beware of interfering with the process of disease in this region. The tendency to cardiac diseases would be removed in many individual cases, if what we many term the intention of pneumonia or pleurisy were not disturbed.

In all these instances we can see the inter-relationships in the whole process of man’s growth and development. In this connection one should also remember the case in which the patient is only slightly affected and in which a cure easier, but in which it is sometimes impossible to be sure whether it has been achieved or not. In such a case one may be compelled to tell the patient not to be anxious, that his condition will soon be relieved, etc. For it would also be of the greatest benefit if we did not try to cure so much! The cure of disease as such is certainly an excellent thing. But it should be borne in mind that there are many people who have passed through every sort of disease—according to their own account, at least—and have also tested every method of treatment. These people, when they have reached a good age, are not easily satisfied by another remedy for their complaints, for they easily satisfied by another remedy for their complaints, for they easily satisfied by another remedy for their complaints, for they are always “invalids.” It would be a good thing to make people aware that most of them are really not so ill as they believe. Of course there are drawbacks in such an attitude. But it may well be brought forward in the present connection.

All these things must be considered in the light of the complexity of man’s being. He has, to
begin with, his physical organisation; then his etheric organisation, which takes such great trouble to work its way into the physical organism between the seventh and fourteenth years. This etheric body is expelled again during certain processes, such as gestation. After the fourteenth year there begins the active installation of the astral body, and later that of the ego itself.

The ego must not be visualised, however, as external to the body in previous stages of growth. It is never external to the body in the waking state, but its “installation” means that the collaboration becomes intensified. Therefore every organic disturbance occasions difficulties and obstructions for the ego in maintaining its position. Contemporary medical science, without knowing it, even shows in diagrams and graphs these difficulties of the ego in coping with the other three vehicles. Of course, living and moving in a materialistic age, one does not fully see this combat in these diagrams. But whenever you trace a proper “fever curve,” you are recording an exact expression of this struggle of the ego. For studying this struggle, therefore, there is hardly anything more instructive than the temperature chart. Of course this may be less significant for therapy than for pathology. But we must know of these matters and understand them, at least in their main outlines. For we can only gain a true insight into the nature of, e.g., pneumonia or abdominal typhus, if we can visualise the course of its temperature curve. Let us suppose we are studying the two main types of temperature curve in pneumonia, and comparing the curve in critical, and in less serious cases. How different in the two cases is the effort of the ego whose intervention in the organisation is impeded! How differently does the ego carry out its counter-attack! In pneumonia, for instance, the temperature curve shows first the struggle, and then the collapse to a temperature below normal, in critical cases. It becomes possible to carry out the counter-attack because of the previous efforts and exertions. In the other type (the lytic case), it is less possible to counter-attack out of the forces of the individual; so the more irregular drop of temperature is actually more dangerous.

The temperature curve in typhus is still more illuminating as regards the working of the ego upon the three other human vehicles. It presents a graphic and definite record of what the ego has to surmount. Such examples can prove how the introduction of natural-scientific methods into medicine compels us to know about the manifold human organisation. The confusions that have arisen in medical science limit its observation to the physical body. These processes in the physical body, however, are never autonomous, and above all they are never all of equal significance. For some of these manifestations may be due to the action of the etheric body, others again to that of the astral body, or the ego. They are all physical processes, but specialised and differentiated according to their origin. Their character differs widely, according to which of the higher
members of man is operative within the physical body.

Now, if you bring together all that was said yesterday as to human dependence on the extra-telluric and telluric forces, and what I added today about human development extending into time, you will be able to form a conclusion that may be of help in the investigation with which we are now concerned. You will be able to postulate that certain forces are continually in action on man. These forces (if we consider the physical and etheric bodies) are extra-telluric as well as telluric, which work against them. They may be subdivided into: those of the outer planets, Saturn, Jupiter, and Mars; and those of the inner planets, Venus, Mercury and the Moon. These latter forces, as a matter of fact, change into telluric influences.* The interaction of Earth and Moon is complex and deceptive in certain ways, and easily misinterpreted. Man is apt to think: there is the moon, above, whence its influence must descend. But this view is incomplete. The moon is not merely earth’s satellite circling around her; the same force that dwells within the moon and works upon the earth, is also contained within the moon and works upon the earth, is also contained within the itself. The earth has its own lunar principle working outwards from within.† Physical manifestations such as the tides and many allied phenomena are not essentially telluric, but lunar; nevertheless they are not directly due to lunar influence (as recent theories claim), but to the lunar principle in the earth itself. There is an apparent correspondence between these effects and the moon, but there is, at least generally, no immediate connection in time. So when we trace the influence of the inner planets, we must look for their counter-image in the earth itself, so that the physical effect, the effect upon the physical, comes vial the earth. And on the other hand, to the outer planets must be ascribed effects in the realm of soul and spirit.

We may define the moon’s action thus: it throws, as it were, certain formative forces down to the earth, and they manifest themselves in the human activities, especially those of creative fantasy and imagination. The lunar influence on the imaginative and creative powers of the soul is immense. These things should be studied; they are, of course, not adequately investigated and recorded in this age of materialism. But that they exist, promoting creative imagination. The moon’s counterpart, the lunar influence on all organic life, starts from the earth, and from there acts on the human organisation. This (twofold) action must be taken into account. The same rule holds good for the inner planets, which lie beyond the moon.

Thus man is affected in the most diverse ways, by telluric forces—call them terrestrial if you so prefer—and by extra-telluric forces. If we wish to study these forces, we must look at the result of their co-operation in the whole human entity. They can not be traced in any isolated part of man,
and least of all in the cell—please note especially, in the least of all. For what is the cell? It is the element that obstinately maintains its separate existence, its own separate life and growth, contrary to the whole of human life and growth. Picture to yourselves, on the one hand, man built up in his whole frame by the telluric and extra-telluric forces, and on the other hand, the cell as that element which intervenes in the operation of these forces, upsets their ground-plan and conception, and even destroys their working by developing its own urge towards independent life. Actually we wage a ceaseless are in our organism against the life of the cell. And the most impossible of conceptions has just arisen in that Cellular Pathology and Cellular Physiology which find cells as the source and basis of everything, and regard the human organism as an aggregate of cells. Whereas, in truth, man is a whole in relationship with the cosmos, and has to wage perpetual war against the independent life and growth of the cells.

In fact the cell is the ceaselessly irritating and disturbing factor in our organism, not the unit of construction. And if such fundamental errors enter into the general scientific view, it is not to be wondered at if the most mistaken conclusions are drawn regarding the nature of man in all its implications.

So we may say that the formative process of man and the process of cell formation represent, as it were, two opposite sets of forces. The individual organs are right amidst the action of these forces; they become liver or heart and so forth according to whether the one or the other set of forces prevails. They represent a continuous balance between two poles. Some of the organs tend towards the cellular principle, and the cosmic factors have to counteract this tendency. Or again, in other organs—which we shall presently specify—the cosmic action dominates the cellular principle. In the light of this knowledge, it is especially interesting to observe all the organic groups that lie between the genital tract and the excretory tract on the one hand, and the heart on the other. These organs, more than any others, resemble the actual state towards which cellular life tends to develop. This resemblance is noticeable in comparison with all the other organs of man. And we must draw the following conclusion as to the essence of the cell. The cell develops—let us exaggerate somewhat, but consciously, and in order to make our point clear—an obstinate and antagonistic life, a life of self-assertion. This obstinate life centred in one point meets the resistance of another force, external to it. And this external element counteracting the cellular process, takes away the vitality from its formative forces. It leaves untouched its globular shape as of a drop of liquid, but sucks the life from it, as it were.

This should be an elementary piece of knowledge familiar to all; everything on our earth that is globular in form, whether within or external to the human frame, is the result of the interplay of
two forces, one urging towards life, the other drawing life away.

If we examine the concept of the mercurial in ancient medicine we learn that it was held that the mercurial has been deprived of life but retains the globular form. This means that the mercurial element must be visualised as tending obstinately to the condition of a living drop of matter, i.e., to a cell, but as prevented by the planetary action of Mercury from being more than a corpse of a cell—that is to say, the typical quicksilver globule. Here is the condition midway between the saline and phosphoric; and here is also a glimpse of the very intricate road we must follow in order to understand the living working of planetary forces in the earth’s to understand the living working of planetary forces in the earth’s substances. Were it not for the planet Mercury, every drop of quicksilver would be a living thing. And all the parts of the human frame which tend most definitely to the cellular principle—that is, the region specified above—need more than any other to receive the proper influence of the planet Mercury. This means that the region below the heart and above the organs of evacuation, depends very much on the preservation of a certain inherent tendency to maintain the cellular process, without letting it get so out of hand that it is quite overwhelmed by life forces. That is, it depends on making the cellular process remain under the devitalising life-paralysing Mercury condition; otherwise the activity of the organs under discussion would at once tend to become exuberant.

Now the follow up these facts, further and further, to the relationship between these organs and the metal mercury or quicksilver, the representative of the mercurial condition. As you will observe, this path you are following represents a perfectly rational train of thought, and what has been found through supersensible vision will have to be confirmed by external and sense-perceptible facts, for the humanity of the present and future. Therefore it is advisable to follow up in clinical observation and in literature the detailed effects upon the human organism of the minerals and metals themselves, and of the minerals and metals contained in plants or animals. We can begin such an investigation with some particularly significant and characteristic facts. Thus I have already referred to a tendency originating before conception, that has to be counteracted by the process of ossification or sclerosis. But there is a complete counterpart to sclerosis and ossification; to produce it one would only have to induce lead poisoning in a man. Of course the experimental tests must not go so far as to set up serious plumbism, for the purpose of studying arterio-sclerosis. But it is most important to be able to follow up cases in which nature itself makes the experiment, in order to find out the inner relationship between lead and the phenomena produced in the human organism through the same forces as are formative in lead. It is possible to trace by close study the correspondence between the process working in lead, and the process of
ossification and sclerotisation in man.

A parallel study could be made of the inter-relationship of the processes inherent in the metal tin, and all that I have already described as the balance between hydrocephaly and its counterpart. This would reveal that this whole complex in childhood, which tends to establish the right ratio of density between the bony part and the soft parts of the head, is due to the action of the same forces as those belonging to tin.

As we have seen, this process moves towards the lungs in later life. So we come to this—that we need only collect and collate material that has been recorded in medical literature for centuries, in order to see the deep relationship between this process, with its accessory symptoms in pneumonia and pleurisy, and the forces proper to iron. Then we have to follow this relationship to the normal process that comes about through the normal action of iron in the blood. You can follow up the same process working between iron and the blood, until it approaches the lungs and their accessories, and you will get an intuitive conception of the efficacy of iron in cases where the balance between hydrocephaly and its opposite has progressed into the lung, as it were. Thus do these forces work with and into one another.Only by recognising this continuous interaction, and by reference to the extra-human processes, can we be in a position to ascertain the healing effects of remedial substances.

It were actually found worth while to consider human nature from this angle, the observer would indisputably develop a “sense of intuition” of great importance in all diagnosis. For diagnosis really depends on the “seeing together” of so many elements. In every diagnosis, the physician should visualise the position and attitude of the patient to the world; the manner of his earlier life, his probable future way of life. There is already in the man of today the germinal disposition of what he will live through and experience, especially in the organic sphere, during the rest of his life.

The connection between what we have stated as to the effects of lead, tin and iron on the human organism, and the effects of the influence of other metals, is to be found in the polarity between the metals referred to and the workings of copper, mercury and silver.

What I have said does not mean any “pushing” of certain remedies. But it has to be presented to you, in order to establish the very definite inter-relationships between the configurations of forces in the metals—and of course other substances—ant the formative forces of the human organism. This is why certain forces, as, for instance, those inherent in copper, work in a particular way against those inherent in iron. We must bear this opposition in mind, so as to know what substances to apply or use, if a certain type of force—e.g., that of iron—becomes too active.
and predominates. In some diseases the forces of iron are obviously too strong; there we must have recourse to copper or copper products, which can also be derived from the vegetable kingdom, as you will see later on.

Perhaps with this survey I have asked you to assimilate too much in many respects. I hope, however, that if you examine my statements in detail, you will recognise the need of following up these things and the possibility of very fruitful results for the transformation of the study of medicine and the whole medical practice and life.

- * See diagram 12.
- † See diagram 14.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE VIII

THE MODE of expression in which we use to abridge or to simplify somewhat our ideas, when we say etheric body, astral body, etc., can be traced back to the imprint of these higher bodies in the realm of physical functions. Nowadays, people are not very ready to link up expressions in the realm of physical functions with the spiritual foundation of existence. But this must be done if medical thinking and conception are to become permeated with Spiritual Science. For instance, it will be necessary to study in detail the exact manner of the interaction between what we term the etheric body and what we term the physical. You have learned that this interaction is at work in man and we have just dealt with its coming into a kind of disorder in relation to the influence of the astral body. But the same interaction also takes place in extra-human nature.

Think this out thoroughly to its conclusion, and then consider that you are gazing profoundly into the relationship between man and nature. Man is surrounded—let us choose this one thing to begin with—by all the earth’s flora in their many species, which he perceives through his different senses. You can at least admit the possibility of an interplay between the flora and all that our earthly atmosphere contains, in the first place, and all that lies outside this earthly sphere, in the planetary and astral regions, in the second place. In considering the flora, suppose the earth’s surface to be here—then we can say that the plants refer us to the atmospheric and astral regions (in the literal sense of a pointing to the stars, to the extra-telluric). And even apart from occult research, we can intuitively sense a living interchange between what manifests in blossom-bearing and fruit, and what flows into them from the whole wide universe. (Of course you must make use of a certain intuition here; but as I have already remarked, you will not get very far in medicine without intuition.) Let us suppose that having realised the external cosmic interplay, we turn our thoughts to our own inner being. There, too, we shall find a certain relationship to that which surrounds us. Just as the etheric and the physical are closely united in the plant-world, so must we surmise a certain kinship between this union and the manner of connection of the etheric and the physical in man himself.

How then can we speak concretely about this relationship of the etheric with the physical? From the abstract point of view, we can say that the etheric is nearer to the astral than to the physical; for the etheric is open to the forces from above. But we must expect also some relationship between the etheric and the physical. So we must take this two-sided kinship and must look for something
which guides us to it. I shall try to do this in the most concrete manner possible.

Walk through an avenue of lime trees in bloom, and try to visualise what happens as you pass between the trees, enveloped in the scent of the lime blossoms. Realise that something is taking place between this fragrance of the limes in flower and, so to speak, the nerve ramifications in your olfactory organs. Turning your conscious thought to this process of perception, you become aware of a certain opening-out or release of the capacity for smelling, which meets the scent of the lime blossom. And you conclude that a process takes place through which an internal sphere in yourself opens to meet something outside, and that the two combine in some way to produce something by virtue of their inner kinship. So you must say that what is diffused in the air as scent from the lime trees—arising without a doubt from an interplay between the flowers and the whole extra-terrestrial environment as they open out towards it—is inwardly felt by you through your sense of smell. There you undoubtedly have something that passes from the etheric body to the astral, for otherwise you could not perceive it, and there would only be the mere process of life. The perception of smell itself proclaims the participation of the astral body. And that which reveals the kinship with the external world, simultaneously shows that the production of the sweet fragrance of the lime blossoms is the polar process to that taking place in your olfactory organs. The fragrance flowing from the blossoms shows the interaction of the plant-etheric with the astral element that embraces it and fills the surrounding universe. *So in our sense of smell, we have a process that enables us to take part in the relationship between the plant-life of the earth and the astral element outside the earth.*

Now take the sense of taste, and, as an example, something not unlike the scent of the lime blossom, though appealing to another sense, say the flavour of liquorice or of sweet ripe grapes. Here we have to do with a process in our taste organ in contrast to that of smell. You know how closely related they are; and you will also realise the resemblance between what happens functionally in the two cases. But you must, at the same time, understand that tasting is a much more organic and internal process then smell. Smelling is far more a surface activity; a participation in extra-human processes widely diffused in space. But that is not so with taste. Taste reveals certain properties inherent in the substances themselves, and therefore closely interwoven with matter. You can learn more of the internal quality of plants by taste than by smell. Call some intuition to your aid and it will help you to know all that is revealed in the organic processes of solidification, and this is manifested in the tendency of the plants to be fragrant. *So you really cannot doubt that taste is a process associated with the relationships of the etheric and the physical.*
Now compare smell and taste. As you react to the plant-world through both these senses, you experience the twofold relationship which the etheric has to the astral on one side and to the physical on the other. You literally enter the etheric, or its expression, if you study these two processes of taste and smell. Where they occur in man, there is a physical revelation of the etheric in its dual relationship to the physical and the astral. When we examine what takes place in the acts of tasting and smelling, we live, so to speak, near the surface of man. Our task today is to pass beyond the abstract, mystical view and to approach the concrete grasp of spiritual truth, so that a true science may be fertilised by spiritual science. What can it avail people to listen to perpetual talk of the need to grasp the Divine in man, if they only understand by that a purely abstract Divinity? This method of approach only becomes fruitful if we can consider concrete instances in detail, and trace, say, the interiorisation of outer processes. For example, if we trace in smell and taste the etheric element which is external yet related to man, we perceive, in what is, perhaps, the crudest of our upper sensory processes, the interiorisation of external processes. It is so extremely important for our time to get beyond mere abstract and mystical notions.

Now you are fully aware that in nature every process tends to pass over into another, to be metamorphosed into some other process. Take what we have just said, for instance, that the sense of smell is located more on the surface of our organism,* while that of taste is more inward (we are speaking here with reference to the plant-world). Both these sense activities occur within the etheric, which opens into the astral on the one hand and solidifies into the physical on the other. The sense of smell reaches outwards towards the evanescent scent of the flowers, while that of taste lives in the process that opposes aromatisation, and interiorises that which externally produces solidification. When we carefully examine smell and taste, we find that in them the outer and the inner merge, as it were.

But in nature, all processes merge into others. Consider again the aromatic qualities of plants, through which, in a certain sense, they tend away from solidification and towards diffusion—even so to speak, going beyond their limits in striving towards the atmosphere. In scent, the plant projects its spiritual quality—for give the amateurish term—into the atmosphere, so that this bears in itself some of the plant existence in the aroma. The phantoms of the plants are still bound up with the aroma. What actually happens when the plant pours its fragrant phantoms into the air, frustrating the process of solidification, and sending forth from the blossom something that tended to become blossoms too? Simply a process of combustion held back. If you picture to yourself the further metamorphosis of this aromatic activity, you reach the conclusion that it is a combustion proper, with the aromatisation of plants. They are two metamorphoses of the same unity. I would
even say that combustion is aromatisation on another level.

Let us now see what it is in plants that produces flavour. It is more deep-seated and does not urge the dispersal of formative forces into the air like a phantom, but gathers them together that they may be used to build up the internal structure. If you follow up this formative activity with your taste, you come to the process lying below solidification in plants, i.e., to salification, which is a metamorphosis, on another level, of solidification.† In plants, therefore, we find a strange metamorphosis. The aroma-process directed upwards is, in a certain sense, suspended combustion, which may lead to the initial stages of combustion (for processes of efflorescence are combustion processes). While in the downward tendency you have solidification and salification, and what you taste is something that is held back on the way to salification. But if saline substance is deposited in the tissues of the plant itself, it is something that has gone a step beyond the path of plant-formation; the plant has pressed the phantom of its form down into its actual being.

Here we have the “ratio” for finding remedies and light is thrown on the whole plant-kingdom because one now begins to realise what takes place there. I must again emphasise that this consideration of concrete facts is the only thing that can help us.

To find the next step, you need only remember that wherever it is possible, and from motives of opportunism in a higher sense, I shall link up what I have to explain with current ideas. Thus you should be in a position to build the bridge between what spiritual science is able to give and what is taught by external science. Naturally the contents of the following paragraphs could be started in a more strictly spiritual-scientific way. But I will connect my remarks with the customary ideas of modern science, because they exist. The physiologist today keeps to the material that lies before him; the spiritual scientist does not need this material before him in the same way, for he does not use the method of dissection. We need not imitate the methods which over-rate anatomical inspection, yet we must reckon with the fact that they have been used and that their results have been established for some time. They will only cease to be employed when natural science has been fertilised to some extent by spiritual science.

Let us examine the close relationship, to which spiritual science will give the key, between the process taking place within the eye, and the processes of smell and taste—particularly of the latter. Let us compare the ramifications of the nerve of taste into neighbouring tissues, with the optic nerve within the eyeball. The relationship is so close that we could hardly avoid looking for an analogy with the process of taste, if we wanted an inward characterisation of the process of sight. Of course the nerve of taste is not continued into anything like the highly intricate structure of the eye, which is situated in front of the retina, and therefore sight is in many ways different.
But what begins as the process of sight, behind the wonderful instrument of the physical eye, has a close inner relationship to the process of taste. I mean that in the act of seeing, we are performing a transformed tasting, metamorphosed because the organic processes of taste are supplemented by the processes due to the intricate structure of the eye. In each one of our senses, we must distinguish between what our organism brings to meet the outer world and what the outer world brings to meet our organism. We must look at the inner process that takes place when the blood runs into the choroid of the eye, where the organism works into the eye. This process is more pronounced in certain animals, which not only have our ocular apparatus but the pecten and the xiphoid processes as well. Now the latter are organs of the blood circulation thrusting the ego forward into the interior of the eye, whereas with us, the ego recedes leaving the eyeball inwardly free. But by means of the blood, our whole organism works through the eye into the whole process of vision. And there, within the process of vision, the transmuted tasting is present. Therefore we may call sight metamorphosed tasting. And in our diagram, we have to put sight as metamorphosed tasting above taste and smell.

The process of taste and of sight correspond to something external that co-operates with something internal. Thus the process of taste must metamorphose itself upwards; sight is the upper metamorphosis of the process of taste, diving down into the lower bodily sphere. In the visual process we raise ourselves to the external world; the eye is enclosed in a bony socket, it belongs to the outside; it is a very external world. Now we turn to the opposite direction and imagine the metamorphosis of the process of taste downwards into the depths of the organism. Here we come to the opposite pole of the sense of sight; we find, as it were, what corresponds in the lower part to the visual process in the upper part of the body. And this will throw much light upon our further inquiries.

In tracing the metamorphosis of the process of taste downwards, we find the digestive function. You can only come to an inner understanding of this function, by recognising it, on the one hand, as a metamorphosed continuation of the process of taste, and on the other, as the complete polar opposite of the exteriorised process of sight. For the exteriorised visual sense enables you to recognise what in the outer world around you corresponds to digestion, of what digestion is an organic interiorisation. On the other hand, you become aware to what extent digestion must be called akin to the process of taste. It is not possible to understand the more intimate activities of our organism, in so far as they focus in the digestive process, unless you visualise that entire process as follows: good digestion is founded on capacity to taste with the whole alimentary tract, and bad digestion results from an incapacity of the whole tract to carry out this function of tasting.
Let us remember now that the process we are considering divides itself into taste and smell. As we have pointed out, taste is more involved in the relationships of the etheric with the physical: and smell, on the other hand, in those of the etheric with the astral. The continuation of the process of taste downwards into the organism is likewise bifurcated. This appears in the tendency of the digestive function towards faecal excretion, while on the other hand, we have excretion through the kidneys in the form of urine.

The two bifurcations, upper and lower, are exactly complementary. There are two polar opposites, one dividing upwards into taste and smell, while downward you have the division into digestion and is based on the more intimate activity of the kidneys and is accessory to their work in the body.

Thus it becomes possible to regard all that happens within our bodies, bounded by the surface of our skin, as an introverted external region. Every continuation upwards leads into the external world; man opens himself up to the exterior in this region.

Now we can follow the matter up in another way. There is, again, a faculty in us which lives in our soul, but is bound to the organism, not bound indeed in any materialistic sense, but in that peculiar sense of which you know from other lectures. For in thinking and the forming of "representations," we have a metamorphosed seeing, once more turned inward in a certain sense.

Just consider for a moment how many of the representations you use in thinking for a moment how many of the representations you use in thinking are simply continuations of visual images; compare for a moment the soul-life of the congenitally blind or deaf person with your own! In thinking we have an interiorised continuation of seeing. And we may even find light thrown upon the remarkable interaction between the anatomy of the head and brain, and the process of though itself. (This would furnish fine material for medical essays!) When we carefully examine our thinking processes, especially the connection between the powers of combination and association and the cerebral structure, we come upon formations resembling a transformation of the olfactory nerve. So we may say that from an internal point of view, our discontinuous, analytic thinking is very like its counterpart, seeing. But the combination of "things seen," the association of representations, resembles smell in its internal organic formation. This contrast is expressed in a remarkable way in the anatomical structure of the brain.

Thus we find thinking and representation as the one end of a metamorphosis. What then may be regarded as the complementary interiorised process? Remember the power of representation can be termed a transformed sight; something that is exteriorised in sight and radiates back into the interior in thought. In thinking we try to reverse our vision, as it were, and to direct it again into the
organism. So its polar opposite will be a process that does not in any way try to lead into the interior, but to lead out. This polar opposite is the process of evacuation—the conclusion of digestion. Thus evacuation becomes the counter-image of representation. Here you have in a more intimate aspect what I have already dealt with from the standpoint of Comparative Anatomy, when I tried to show the close relationship between the so-called mental (spiritual) capacities of man and the regulated or non-regulated process of excretion; basing my argument on anatomical structure and the existence of the flora of the intestines.

Here is the same truth revealed by another approach. In thought we have an internal continuation of sight, and in evacuation an external continuation of digestion. Now refer to what we said before, that the aroma process in plants is a suspended combustion, and their solidification a suspended salt-process. This again throws light on what takes place within the body! Only—we must be clear that a reversal takes place. In representation, we have the sense of sight reversed and turned inwards, while the lower bodily sphere there is a reversal towards the outside. So we have to recognise the relationship of the upper process to salification and of the lower to combustion, or to “fire.” So if you apply a suitable remedy containing aromatisation and suspended combustion in plants, to the hypogastrium, you will help and relieve it. Conversely, if you apply to the upper part of man what tends to keep back or to interiorise the salt-process within the plant, you will give help in this sphere also. This rule we shall have to discuss and apply in detail.

Thus the whole external world may reappear in our human interior. And the more deeply internal the process, the greater the need to find its external analogue. We must see something very closely akin to the aromatic and combustion processes—but akin in the sense of polarity—in the activities of the digestive organs, especially of the kidneys. Again in the upper region, from the lungs upward, through the larynx into the head, we must see something related to the tendency to salt formation in the plant; all this tends to salification in man. We might even say, or rather we can say, that if we have once acquired a knowledge of the different ways in which plants absorb and collect salt, we need only look for their analogues in the human organisation. We have dealt with this in general today, and we shall go on to consider it in detail.

With this you have a basic principle for the whole of plant therapy. You have a general picture of the whole process of mutual action and reaction between the interior and the exterior world. But you will already be able to see some specific applications. Take, for instance, some of the odours which even as such are linked with taste, so that they may be fully experienced if the plant is not only sniffed, but chewed. Then we find a synthesis of smell and taste, aroma and flavour, as for instance in balm or ground ivy. In such cases we find that in the scent there is already an element
of salification; there is a collaboration between the saline and aromatic tendencies. And this is an indication of their correspondence in the organism, an indication that balm, for instance, is suitable for the external organs and the chest, whereas such very fragrant forms as lime or rose blossom are akin to that which lies deep within the abdomen or in the neighbourhood of the abdominal wall.

All the organs and functions of our upper sphere in the regions of the smell and taste activities, are interlocked with a life-process, which can be termed in a deeper sense—i.e. —respiration.* Let us look for the polar complementary activity; it must be something branching form the digestive process, before digestion passes into evacuation, and be the polar counterpart of “representation.” Yet it must be something organically adjacent to the process of digestion, just as respiration is organically adjacent to the process of the organs, considered externally. So we find the converse of respiration in the lymph and blood processes, in the process of blood formation and especially in what branches off and is pushed inward from the digestion, i.e., the processes in the lymphatic glands and similar organs contributing to blood formation. Here then are two polar processes; the one branching from the digestive system, the other from the more external sensory processes; one, respiration, in the second line behind the sensory organs; and the other situated just in front where the digestive process leads to excretion—the process of blood and lymph. It is remarkable how, starting from actual processes, we come to an insight into the whole human being, whereas in current medicine man is studied only from the organs, considered externally. Here, however, we try to understand the individual person out of the whole relationship between man and the external world. We find interactions that directly depict the etheric activities in man; and these have been our object of study today. And the two processes of breathing and blood-formation meet again in the human heart itself. The whole outside world (including man) appears as a duality that is dammed up in the heart, and in it strives for a kind of equilibrium.

Thus we come to a remarkable picture, the picture of the human heart, with its interiorising character, its synthesis of everything that works from outside into our bodies. Outside in the world there is an analysis, a scattering, of all that is gathered together in the heart.† You come here to an important conception that might be expressed thus: You look out into the world, face the horizon and ask: —What is in these outer surroundings? What works inwards from the periphery? Where can I find something in myself that is akin to it? If I look into my own heart, I find, as it were, the inverted heaven, the polar opposite. On the one hand you have the periphery, the point extended to infinity, on the other you have the heart, which is the infinite circle concentrated to a point. The
whole world is within our heart. To use an illustration, perhaps one that is somewhat crude: — Picture to yourselves man standing looking on into the infinite expanses of the world; perhaps standing on a high hill, looking out and around. And suppose that the tiniest dwarf imaginable is put in the human heart. Try to realise that what the dwarf sees within the heart is the complete inverted image of the universe, contracted and synthesised. This is perhaps purely a picture, a kind of imagination. But if rightly conceived and taken up, it can work as an orderly regulative picture, a regulative principle, that is able to guide us, and to help us rightly to combine our isolated attainments of knowledge.

Most of the foundations for our special studies and inquiries have now been laid down, and they will be the basis for answering the many questions you have now been laid down, and they will be the basis for answering the many questions you have addressed to me.

- * See diagram 15.
- * See diagram 16.
- † See diagram 16.
- * See diagram 16.
- * See diagram 16. (The term “representation” renders the German Vorstellung better than the usual translation “idea,” which is ambiguous.)
- * See diagram 16.
- * See diagram 16.
- * See diagram 16.
- † See diagram 17.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE IX

WE DISCUSSED yesterday what may be termed the approximation of the human organism to the external world. One can see in the interplay between the two senses, smell and taste, how human nature enters into a closer connection with the occurrences of extra-human nature. We make these investigations because it is important for spiritual science to co-ordinate remedial methods and human organic processes, as closely as possible. In healing the main consideration is always the correct perception of the particular factors contained in what we apply to the body, whether by chemical, physiological or purely physical measures; and which factors are contained in the healthy functions of the organism and are missing in the morbid state. One must “think together” both processes, that external to, and that within, the human organism.

These two processes approach most nearly in the perception of taste and smell. In all that concerns the remaining senses, they lie further apart. For example, there is considerable distance within the human body, between seeing and digestion—even using “digestion” in the more limited sense of what goes on between the chewing of the food within the mouth and its being worked up by the glandular activities in the intestines. The remaining region of the digestive apparatus I comprise within elimination, which may occur within the body (by absorption) and evacuation which disposes externally of waste manner. The functions which occur below the great glands I would classify under the heading of elimination.

The sense of sight perceives those external objects which as it were lock up in themselves what comes to the surface in smell and taste. It is that element in the process of smell which leaves the extra-human nature in order to become perceptible to man. In other cases, this element locks itself up in the substances, and then we look at it from outside. If we contemplate the forms of visible things we have before us externally the formative principle which in the olfactory process reveals itself in substance only. I would even suggest that you follow up the phenomena revealed in smell, not only into the vegetable world but into the mineral kingdom as well. You will find that the same basic principle as appears in smell is at work in the formative processes outside us. Its polar opposite is the digestive process. This latter appropriates as it were the elements revealed to our sense of taste; and hides, secretes within our bodies, what is thus revealed in taste. It is significant that we have hitherto had to describe extra-human nature, as being almost wholly situated in the unconscious region. True, the connections with the whole universe are present in man: man is related to Saturn, Jupiter, etc.; but the relations are concealed in the depths of our organisation. At
the risk of offending current modes of thought, I would suggest that the astronomical affiliations form the most deeply unconscious region in man, they are transmuted into the most secluded of his organic processes.

But we have also organs that open in a way our human organism from within; and thus bring man into relationship with what happens at a certain nearness to our earth’s surface; that is to say, into relationship with the meteorological world, in its widest meaning. And if we do not limit our healing efforts to mere substances with curative properties, but extend them to tracing the curative processes, we must include within our purview the relationships of man to the meteorological processes—again in the widest sense of the term.

We are already able to distinguish what is associated mainly with the astronomical world from what is associated mainly with the meteorological world, in our organism. This distinction, to be sure, needs a more delicate method of observation. At first, no doubt, these statements may shock your preconceptions, but I hope to convince you in time that the classification above mentioned is the best of foundations for curative treatment. As a general rule we find that the organs which open to the meteorological sphere are those farthest from the surface and most deeply internal. The chief amongst them is the liver, and all the vesicular structures, especially represented by the bladder itself; the bladder being extremely important pathologically, even one of the most important of our attributes for pathological purposes. Another member of this group is the lung; which opens externally in order to mediate breathing. Then again, we must include the heart in this group, and if you have correctly interpreted much that has been said in our previous lectures, you will easily understand this fact. And indeed all these organs are associated with special meteorological impulses. We can only study them in detail, by going thoroughly into the problems of the human relationship to the world without, and especially into the connection of the human activities with the world environment.

I would urgently suggest that you make a thorough effort to trace back all the cases of cardiac lesions brought to your consulting rooms, to disturbance of human activity. Definite investigations should be made into the differences—and they are considerable—between the heart action of a peasant, who cultivates his bit of land, and has very few occasions for getting away from it, and the heart action of persons whose profession implies a good deal of motoring or at least a good deal of railway travel. It would be of the utmost interest to obtain adequate comparative data on this topic. For you will find the tendency to cardiac complaints mainly dependent on the sedentary immobility of the person, who, while thus sitting still, is carried forward by forces outside himself, whether in a railway carriage or a motorcar. This passive
abandonment to motion is the cause which as it were deforms all processes dammed up in the heart.

All this acting and reacting between man and the external world, is dependent on the manner in which he develops warmth. Here you see the relationship of the heart’s activity with the impulse of warmth in the world belonging to man; and you conclude that if enough warmth is generated by man through his own activity, the sufficient amount of warmth developed in the process of life, is itself the measure of the soundness of the human heart. Therefore it is important for the treatment of cardiac cases, to provoke spontaneous movements that are fully permeated with life and soul. I am convinced that after perhaps no more than fifteen years have gone by, people will think more clearly and justly in these matters, than they do today. They will say: “It is certainly curious that cardiac cases have acquired sound heart action through the practice of Eurhythmy!”—for Eurhythmic practice mainly regulates the spontaneous movements permeated with soul and even according to law. So it is perhaps permissible to mention these truly remedial exercises derived from Eurhythmy (curative Eurhythmy), in the treatment of all irregularities of the cardiac functions.

Now let us turn to all the manifestations of sub-normal vesicular action in man. What I am about to suggest may appear somewhat amateurish, but it is not so; it is built on foundations more scientific than what passes for science today. The bladder is mainly an organ of traction or suction; I might say that its operation is that of a cavity vacuum in the body, it draws in or sucks. Its functions really depend on our organism being hollowed out in this very region; its action on the rest of the organism is exactly that of a gas globe in a vessel of water. If you have a gas globe, that is a sphere containing a thinned out substance, surrounded on all sides by water, a substance of greater density, the effect proceeding from this globe of tenuous substance is similar to that of the bladder on the human organism. This is why the essential functions of the bladder are disturbed in persons who have not the opportunity to perform their internal movements sufficiently; persons who e.g., do not take sufficient care to chew their food properly, who gulp it down instead of masticating it, thus unduly overtaxing the whole apparatus of digestion; or who do not take care to secure the proper mixture of movement with rest, during the digestive process itself and so forth. All that impedes the interior mobility also impedes and injures what might be termed the functional life of the bladder. Is it not the nature of man to accept and even try some form of movement, permeated with soul if you prescribe for “heart trouble”; but he is unwilling to accept suggestions for regulating internal movements. You will, however, at once succeed with a patient who is not inclined to give the body the necessary rest and who devours his food and disturbs his
digestion in some other way, if you cure him “meteorologically,” i.e., by bringing him into an atmosphere richer in oxygen, so that his respiration becomes quicker and deeper and he must give more (though unconscious) care to the breathing process. This quickening and regulating of respiration passes over into regulation of the other organic processes and you will find that “change of air” (whether by artificial means or better still by natural ones) into a more highly oxygenated atmosphere, causes a certain improvement in cases of bladder disturbance, simply through this change of life habits.

Most important is the third organ, the liver, which is linked up with the external “meteorological” conditions in the widest sense. Although apparently secluded within the organism, the liver is in a high degree correlated to the world outside. A proof of this is the dependence of the liver’s health and activity on the special quality of the water in a given locality. In order to comprehend the exact state of liver health of any local group of persons, the composition of the local water ought to be studied.

The activity of taste is beneficial to the healthy development of the liver, but if indulged to excess, degeneracy follows. Degeneracy of the liver is synonymous with too gross and too constant feeding. The internal enjoyment of taste, the prolongation within of sensations which should be limited to tongue and palate, whether the sensations be pleasant and attractive, or repelling, leads to degeneration of the liver. Therefore one should try, in the case of liver disturbances (which are often difficult to find out), to induce patients to cultivate the sense of taste, and try to distinguish flavours as such, and appreciate them. Of course there will be considerable difficulties in the thorough study of the relationship between the functional life of the human liver and the composition of the water in any particular locality; for the dependence is extremely subtle, and it must be borne in mind that in districts with a water supply full of lime, e.g., the whole life of the liver will differ from that of districts with water poorer in lime. It would be well to pay heed to these factors, noting that the functions of the liver are promoted by water from which the lime has been withheld. Of course, the ways and means to carry this out must be found.

And again, the lung and its life are closely connected with the conditions set up by the geology and geography of the given locality. There is a great difference according to whether the soil is mainly limestone, as here in Dornach, or siliceous, as in the mountains of “old rock”; that is to say, the lungs are essentially dependent on the earthly and solid structure of the region in question. One of the first tasks of any medical man beginning practice, is to study the geology of his district thoroughly; for such study is identical with the study of its inhabitants’ lungs. And it should be fully realised that almost the most unfavourable case is when the lung is totally unable to adapt itself to
Do not misunderstand the view just stated. I refer to the actual internal structure of the lung; I do not mean the function of breathing, although this function is, of course, in its turn affected by the adequate or defective structure of the lung. We are dealing with the dependence of the inner lung structure on environment; whether the lungs tend to encrustation (hardening) or to becoming mucoid (slimy), is mainly due to the nature of the environment. Moreover the lungs are peculiarly dependent on corporeal exertion, and are certainly injured in persons who are obliged to do physical work to exhaustion.

These are the relationships which lead us to the dependences of such organs which, as lungs, liver, bladder and heart, open themselves to the influences of the "meteorological sphere." Curative treatments of illness in any of this organic group should therefore be sought by "physical" methods. For the results in such cases of services to a patient with weak lungs, and resident in an unsuitable district, to induce him to change his abode and move to a district which suits him more. Indeed those organs situated above the lungs are often helped in an extraordinary manner, by complete change of locality and manner of life. Change of district and daily habit can do comparatively little to relieve morbid conditions in the sphere from the heart downwards: but they are extraordinarily beneficial to the lungs and all that is situated above them. It must only be kept in mind that all functions in the organism are interdependent, and that one must find out whether or not a hidden interplay may be at work. For instance, we may find degeneration of the cardiac vessels: then we have to inquire whether there may not be a tendency to degeneration of lung in the same subject, and whether the cardiac symptoms should not be treated from the aspect of the pulmonary condition.

These are at least hints as to the meteorological dependencies of man. Behind the meteorological sphere, as it were behind a screen, there is hidden the astronomical domain in the external world as well as in the interior of man. The distinctions here are as follows: the meteorological sphere within us comprises that which appertains to lungs, liver, liver, bladder and heart; in the external world, it comprises the solid earth and the realms of air, water and warmth. Behind and beyond this region, lie the formative processes in the plant and mineral realms; and to these formative processes, which are so closely akin to the extra-telluric, i.e., the astronomical domain, there is a polar opposite in man, viz., the organs situated more deeply within our bodies than the four systems of organs mentioned above. As the relation of the processes in plant and mineral to what lies behind lung, liver, etc., is not so obvious, the study of the healing processes in this realm becomes far more difficult. The rational path of investigation is the clear comprehension of man’s organic tendency.
to perform and produce, somewhere, the exact opposite to the happening of external nature.

Take, as a concrete instance, the processes proper to silicic acid (silicon). These processes are especially conspicuous wherever silicates are being formed, as quartz or similar minerals. They have their counterpart within the human organism. And it is these processes which extend their work to certain occurrences (which receive far too little attention at present) within the soil, between the arable soil and the siliceous elements in the earth, on the one hand, and those plant organs which grip the earth; the roots. Again all the substances derived from the ashes of plants, are closely related to the siliceous process outside ourselves.

This external siliceous process has its counterpart within us namely in those organs situated—if I may so express myself—above the cardiac activity towards the pulmonary; I mean the inner organic formative activity, which moulds the lungs and is directed upwards towards the head region. In this formative activity which takes place above the heart we find the polarity to the formation of silicates in external nature. The particular internal organic process consists essentially in producing a high degree of homeopathic distribution—to use this term again—of the external siliceous process.

Suppose you are in charge of a case, in which all the symptoms point to the seat of disease as situated above the heart—one of the obvious symptoms would be profuse secretion from the lungs, and meningitis is an equally pronounced indication. The results may be all sorts of other morbid manifestation in the body: for pulmonary disturbances act upon disturbances of the cardiac vessels, since everything in the organism is interdependent. Those disturbances which involve a tendency to inflammatory states of the brain, may not manifest directly but can reappear in inflammatory conditions in the digestive apparatus or its ancillary organs. And it is all important to be able to locate the origin of all these symptoms; we shall have to deal with this in later discussions. In all such cases we must introduce something which disperses and dilutes the action of the external siliceous processes to the highest degree. This particular connection is extremely significant and characteristic, providing the necessity of transforming the siliceous process which plays one of the leading roles in external nature, by dispersing, diving, and triturating, in cases of marked symptoms in the upper portion of the body. But suppose we find injuries and morbid symptoms produced by organic interaction in the lower parts as, e.g., in the heart itself? Then benefit may be derived from introducing the process already transformed by such plants as are rich in silicates, careful investigation should be made, to determine their effect on all the processes of our organism below the heart—those processes having, of course, their repercussions on the upper part as well.
The complete opposite of silicon formation is contained in all that we will term the process of carbon dioxide formation in external nature. The two are in certain respects true polarities. Therefore it is so necessary to follow up the carbon dioxide process in curative treatment of all cases of the opposite disturbance to that just dealt with, namely in everything connected with digestion or having its starting-point in the digestive system. All carbon dioxide preparations have remarkable remedial success in this class of illness, especially if used in the form moulded by nature itself—namely, straight from the plants.

Here a certain connection must be kept in mind. Consider for a moment the substances with their characteristics of taste and smell: smell points to the outside visible world, taste to the hidden depth of the organism. The examine the digestive process from this point of view and you will find that at the beginning of digestion, the substances merge together; they mingle and mix. But as the organic process goes on we are engaged in separating what again had been mixed; there is a renewed division, not so much of substances as of processes. This renewed division, not so much of substances as of processes. This renewed division after merging and mixing is an outstanding task of the organism. First there is the principal bifurcation of excretion, on the one side through the bowels and on the other side in liquid form, as urine.

This bifurcation brings us to the consideration of an organic system which has more than any other to be approached by medical intuition in curing; this is the kidney system, with its remarkable ramifications which extend also to its special processes. We shall deal with these later on. Here I would only remind you of the interrelationship, already mentioned in these discussions, between intestinal evacuation or excretion, and the activities in the head. There is a similar interrelationship between urinary excretion and all the processes that take place around the heart, in the cardiac system. The formative process of intestinal evacuation is, in effect, a human copy of the siliceous process, and the process of urine formation is a copy of the carbonic acid process. Such connections are able to build the bridge from the process happening in the healthy individual to the process in the unhealthy. Herewith we have laid special stress on the relation of the processes proper. But they must not be viewed in isolation. And we shall see that it is only through mastery of these correspondences and relationships that we can arrive at a proper use of what Dr. Sch. recently described in his extraordinarily illuminating address, as the Law of Similarity.
This Law of Similarity contains something very significant. But the Law must be constructed upon all the elements obtained by the taking heed of the relationships we are about to ascertain. For behind all the interactions to which reference has been made, there lies the connection between man and the realm of metals. *If we speak on the one hand, of the silicon principle, as the force which forms us, and of the carbonic acid principle, as the force that dissolves us—this perpetual tendency to mould, to dissolve represents the process of life.* In contemplating the formative forces of silicon, we must not forget that the regions of our bodies most akin to silicon are those related to all the metallic group comprising lead, tin and iron and thus related for reasons already indicated in previous lectures. Indeed we may say that in considering the region from the heart upwards, we must consider the workings in man of the silicon process on the one hand and of what is at work from the part of the metals, lead, tin, and iron on the other. The iron forces are connected preferably with the formative process of the lungs, those associated with tin with the formative principle of the head and those associated with lead, with the formative principle localised in the bony skeleton. For the formation and the growth of the bones are determined from the upper organic sphere, and not from the lower.

Furthermore, one has to learn how to weigh the co-operating factors, e.g., how to blend a remedy containing silicates with a metal which must bear a resemblance to the three metals aforesaid: iron, tin and lead. In treating the lower organic sphere, on the other hand, one must keep in mind the affinity with copper, quicksilver, and silver, and in applying carbonic acid processes we must consider how to combine in some way either these metals themselves or those of similar nature, with processes yielding carbonic acid.

In this way we build the bridge between what is of metallic nature in the terrestrial sphere (conditioned by extra-terrestrial forces) and what is of non-metallic, rock-forming nature: just as we combine what is formed under the control of the carbonic acid-principle and what is formed under the influence of the silicon-forming principle. Thus we gradually become able to grasp concretely in external nature the substances which we have to introduce into the human organism in order to heal in a particular case.

Again, it should always be borne in mind that all substances working to a lesser extent on the lower senses, as, e.g., taste and smell, and thus not advertising their nature—so to speak—loudly and conspicuously, can for that very reason be effective in very strong dilutions, whereas much
weaker dilutions are advisable where the substance proclaims it inner nature insistently to taste and smell. Substances of powerful odour and flavour are often excellent medicinally, without any additions, or combinations, especially if their healing effect is not counteracted by the habitual diet of the patient concerned. We must only clearly understand what is the point in the curative effect.

Before we can penetrate still more into these matters, let us realise that every one of the senses in man has fine shades of differentiation; and that the best material for tests to ascertain the reactions here, is the human being. Of course if it difficult to ascertain reactions to substances with no perceptible taste or smell. *But may I draw your attention here to the possibilities of self-education—a form of self-education of great value for medical men especially—which consists in developing possible capacities of sensation which may give a sensory response even to—for instance—the process of silicon formation in external nature.* Consider that there must be a meaning in the fact that quartz exhibits very regular crystal formations, and at the same time that this mineral and its allies so regular in their formations, tend nevertheless to the widest possible variety of crystallisation, for there is immense diversity in the crystals of all the silicates. He who can grasp these things, can also perceive the action of a dispersing element in the possibility of all these different formations.

There must of course be a fundamental dispersive force if there is the potentiality of such fundamental dispersive as external nature reveals in the silicates. This is an indication for the therapeutic use of silicates in a “scattered” form. It is desirable to develop a capacity of sensation in these matters, such a sense will lead to a certain valuation concerning remedies. On the other hand, man must educate himself to become a suitable reactive instrument, and acquire sensory capacities for the fact for example—that the odours have a sevenfold classification just as the colour sensations. We have only to acquire the sense of difference between the sweet smell, the pungent smell and so forth to discover seven main nuances of smells, and the same is equally true of flavours. Moreover, if we acquire the power to differentiate all the odours in this olfactory scale—or olfactory spectrum if it may be so termed—we educate ourselves in the perception, e.g., of all the manifestations of burning and combustible substances. We penetrate into their essential nature. We shall see tomorrow how this can be done. If we also cultivate our capacity of taste and can perceive the difference between the faintest degrees of sweetness and of saltiness in flavours—and all the five shades between—we grow akin to the salt forming forces in external nature.
And if we acquire this inner kinship, we also get a direct sensation from the natural sensory impression, as to which sphere or portion of the human organism this or that substance will benefit. Although the base must be careful and exact scientific investigations, it is most important that those scientific results should be accompanied by subjective perceptual experience; so as to develop a certain intimate feeling of kinship to the world of nature.

*Eurhythmmy is a new art of movement created by Dr. Steiner. See *Eurhythmmy as Visible Song: Eurhythmmy as Visible Speech*. Rudolf Steiner Publishing Co.

*i.e.*, open air, light, warmth, etc.

*A lecture delivered by a medical man attending Dr. Steiner’s course.*
SPIRITUAL SCIENCE AND MEDICINE

LECTURE X

IT IS natural and obvious that in these lectures we should seek the method by which the study of medicine can be fertilised and quickened, and that we do not lose ourselves here in atomised details which can have a merely relative importance. The methodical study of relationships between external nature and man may well tend to equip every human individual with the means to observe nature independently. So we will cite some concrete examples which may indicate a pathway in a certain sense, to a particular realm.

Of course the spiritual-scientific investigation proper in yielding regulative principles, can find out many things which can be verified in the sense pointed out yesterday in Dr. S.’s address. On the other hand, if one applies these principles methodically they prove to be elucidating for many experiences. I should like to put a few illustrative instances before you which can be of great significance. Let us keep to the vegetable word for the moment; and consider the general effect of aniseed (Anisum Vulgare) on the human organism. We shall find its characteristic effects to the human organism. We shall find with this particular plant, that this effect is linked with the minutely distributed portions of iron or iron salts, which aniseed contains. So we can observe, for ourselves, that the curative efficacy of aniseed depends on the fact that it takes away from the blood the forces working normally by means of the iron, and pushes them for a while to the region below the sphere of the blood.

The study of certain plants which act preferably upon the middle (rhythmic) system (i.e. between outside and inside, or between the surface of the body and the heart) shows us especially clearly how their effects extend to different regions; and this provides us with guiding threads to find out in a rational way the curative remedies. Study, for instance, a plant which is in this respect an instructor in the realm of nature; Cichorium intybus, the chicory. From this plant we may learn a variety of facts about our human bodies, if we only take the trouble to do so. We find that Cichorium intybus is not only an antidote to digestive weakness but also to weakness in the organs immediately exposed to the external world. Its second beneficial peculiarity from being slack in essential processes and prevents it from admitting disturbances in the composition of the blood fluid itself. Finally, and very valuably, the curative effects of Cichorium intybus reach to our periphery and under certain conditions may affect the organs of the head but especially of the throat and chest, and the lungs. This wide range of strong action on every part of the human being
makes finds its effects extending fan-like in so many directions. We many ask, for instance: what is the origin of the counteraction to weak digestion? We shall find that this effect is due to the bitter substance extracted from the plant, which so strongly affects our sense of taste. This bitter extract, which still preserves its nature as a plant substance, has affinity to those substances in man which are not yet properly worked up and are still resembling their original external appearance.

We must remember that the substances we take in, are at first comparatively slightly modified in their passage as far down as the stomach. They are then further altered by the intestines, pass into the blood and have their farthest stage of transformation in the human periphery, the skin, as well as in the bone, nerve and muscular systems. All extractive substances are strongly akin to the external raw materials, before they have been transformed.

Cichorium intybus contains also alkaline salts, e.g., potassium. It is here that we see the source of its effects on the blood. Thus we can watch in this plant how the working forces diverge. The forces situated in the extractive substances are drawn into the organs of digestion by natural affinity. The forces inherent in the alkaline salts, are drawn by natural affinity into the organs related to the blood or the blood itself. Cichorium intybus also contains silicic acid (silicon) to a considerable degree. This substance operates through the bloodstream and beyond it, into the peripheral organs until it reaches the bony structure via the nervous system and the muscle system. So Cichorium intybus really says to us “here am I, and I let myself be divided into three, so that I have effect on all three divisions of the human organism.” Such are the experiments of Nature itself, and they are always much more valuable and significant than those made by man; for Nature is far richer in its purposes than we can be, as we put our question to it in experimental form.

Another plant full of interest in this direction is Equisetum arvense (the Horsetail). Here, too, we find strong effects as antidote against weak digestion and also strong effects on the periphery of the human frame. If we ask to what are these peripheral effects due, we again find they are due to the silicon content of the plant. And these two examples can be multiplied many times over, by any thorough study of medicine and of botany. Such comparative study will prove always and everywhere, that all substances which tend to the mineral kingdom, i.e., silicic acid, work automatically and irresistibly outwards, from the center of the human being to its periphery, and have their curative effect on that periphery.

Another superbly efficacious plant, simple and humble but infinitely instructive, is Fragaria vesca, the little wild strawberry of the woods. Its medicinal properties have only been obscured because it is eaten; and in this case the organisation of the eater masks as it were the plant’s
effects. But it would be well to test the plant on persons who are still sensitive, susceptible, and do not often eat strawberries. In such persons, the amazing value of the wild strawberry would reveal itself at once. It is on the one hand especially potent in normalising the formation of the blood. It may even be prescribed with benefit in cases of diarrhoea for this reason; the forces in the lower organic sphere which are deflected from their normal course can be, as it were, restored to their proper path, viz., into the blood system itself. Here, then, is, on the one hand, a force which is essentially active in blood formation. On the other hand, the wild strawberry also contains silicic acid, which promotes stimulation of all the periphery. The wood-strawberry is indeed a splendid *multum in parvo*. It tends, through its siliceous content, to stimulate the action of the periphery in our organism. Then, as this peripheral stimulation means a certain risk, if too much silicic acid is conducted to the periphery, that there is not a simultaneous current of nutritive substances in the same direction, and that the bloodstream is not simultaneously sufficiently enriched to nourish these areas stimulated by the silicates—the wild strawberry itself prepares the blood which has to be transmitted. It expresses and manifests in a remarkable form, just what should be done, in order to balance and help the processes activated by siliceous compounds in the periphery of our human organism. Thus nature gives us, in single examples such as this—which could be considerably multiplied—remarkable glimpses of possibilities which may become practice, if we have the intuition to seek Nature aright.

From the same point of view, I will call your attention to another example. Study the rather extensive field of action of such plants as—for instance, *Lavendula* (Lavender). On the one hand, the constituents of lavender are powerful remedies for what I may term “negative conditions of the soul,” appearing as fainting fits, neurasthenia, paralysis etc. Thus, lavender operates towards the human surface and extremities, expelling the astral body which has overpowered the physical. In considering the application of herbal remedies—and in fact all substances—which have proved of benefit in cases of what we may term negative soul states, we should do well to inquire whether opposite negative conditions exist, such, for example, as amenorrhoea in women. It will invariably be found that the same substance is effective in both directions. A plant of this description is *Melissa* the balm-mint, which is a remedy against vertigo and fainting fits, and at the same time a powerful ecbolic.

These examples have been cited in order to show the possibility of following the process occurring in the plant through its resemblance to the internal process in man. We must, however, keep in mind this reservation: the plant is really akin to a part only of the nature of man. I should like to ask all those who restrict themselves (with a certain degree of fanaticism) to plant remedies
alone, to bear this in mind. Man is so constructed as to comprise and contain all the kingdoms of nature in himself; in addition to the human kingdoms of nature in himself; in addition to the human kingdom, there has been a kinship during the periods of man’s formation, in his evolutionary stages, with all the other kingdoms of nature. Indeed in the course of evolution, we have, so to speak, put these nature kingdoms outside, and are able to reabsorb what is needful for us once more. Yes—it is really a process of reabsorption—of return. And this fact of reabsorption and return is very significant.

The elements most recently detached in the course of evolution, must be the soonest reabsorbed in any curative process. We will, for the moment, leave the animal world for later consideration. It is clear that in the course of evolution we have detached the mineral kingdom proper at a later date than the vegetable and therefore it is obvious that seeking the relationships to the plants alone is simply one-sided. Nevertheless the vegetable kingdom retains for us its instructive significance, and not least because if plants heal us, they do so, not only through their essential nature as plants, but also through those ingredients in their composition which appertain to the mineral kingdom. At the same time, we must bear in mind that the plant modifies and transforms a portion of its mineral elements and that the portion thus modified is not curative in such a high degree as the unmodified mineral residue. Thus the Silicic acid (silicon) which has been “overcome” and absorbed into the plant’s processes, is not so powerful a remedy as silicon in its mineral form, for in this case the human assimilating and taking it into the human unity, than in the assimilation of silicon in its modified vegetable form.

It must always be emphasised that man must evolve greater forces to cope with the greater forces he encounters. And the forces inherent in mineral substances, which are to be assimilated and overcome, are incontestably greater than those in vegetable matter. (May I interpolate here the emphatic statement that I am not making propaganda for anything whatsoever, I am only stating facts.) The difference between animal and vegetable diets is based on the principle just stated. If we live on exclusively vegetable food, our own human being has to take over all that portion of the process which the animal performs for us, after it has eaten and assimilated plants, and brought the substance a stage further. We may put it thus: the process brought to a certain stage by the plant itself, is then carried further by the animal. The formative process of the animal organism stops at this point; whereas in the plant it stops here. The meat-eater dispenses with the particular digestive process performed within the animal; he leaves it to the animal to do it for him. Therefore the meat-eater does not develop those particular energies that must be and are developed by vegetable substance, which he must lead himself to the
necessary point. So the organism has to mobilise quite other forces in order to deal with plant food than is the case with meat food. These forces, these potential forces for overcoming, whether used or not, are there: they exist within us and if not used they recoil, as it were, into the organism, and are active—with the general effect of causing great exhaustion and irritation to the individual. Thus it becomes necessary to emphasise strongly that there is considerable relief from fatigue, if a vegetarian diet is adopted. Man becomes more able to work because he gets used to drawing on inherent sources of energy which he fails to do but makes sources of disturbance by a meat diet. As already made plain, I am not “agitating” for anything. I know that even homeopathic physicians have repeatedly assured me that persons induced to abandon meat food are thereby exposed to consumption. Yes, that may be possible. Nevertheless the stark facts just stated, remain unaffected; it is so, beyond all dispute. I will, however, quite freely admit that there are human organisms among us today that cannot tolerate purely vegetable food, that require meat in their diet. This depends on the individual case.

When we admit the need for creating a relation to the mineral realm and the mineral forces in the curative process, we are led to consider a further therapeutic requirement. We are led to consider a subject which has been much discussed, but which in my opinion can only be solved—or even really understood—if approached from the viewpoint of spiritual science.

In order to grasp the nature of the curative process it is most important, as it seems to me, to deal with the question of the comparative value of prepared, i.e., cooked food and food in its raw state. Again I must ask you—and on this theme most especially—not to take me for an agitator, either for or against either method! But we must examine, in perfectly unbiased manner, the actual facts of the case. If people eat cooked and prepared food, and assimilate the forces left within it, they are externally performing an office which must be performed by the organism itself in the case of raw food. Man throws upon the process of cooking, in all its forms, something which his organism should do. Moreover man is so constructed, that in our periphery we are interrelated with the whole of outer nature, but in our “centre”—to which our digestion essentially belongs—we separate ourselves from nature and cut ourselves off as individuals. Let us try to represent this difference, in the form of a rough sketch. *Through our periphery (green in Diagram), we are closely interwoven with the cosmos, and we individualise ourselves in the digestive process up to the formation of the blood (red in Diagram); so that this digestive tract is the scene of several processes independent of the external processes of nature, in which man maintains his individual entity as distinct from the external processes—at least more so than in the polaric region where man is wholly inserted into the external processes. Perhaps I may make this more comprehensible.
if I add the following: I have already described how man is included in the whole cosmos through the operation of the formative forces of lead, tin and iron within the regions here coloured green. In the regions marked red, the formative forces of copper, quicksilver and silver are active. The equipoise is held by gold, those forces mainly localised in the heart. To refer to man in this way means to look on him somewhat as a finger which is an organ of the whole cosmos. But in the tract marked here lies the contradiction contained in the fact that man, in digestion and in the allied functions, separates himself from the general world process—and the same is true for the complementary process of thinking and vision, where he once more individualises himself. This is why man tends to display, as it were, obstinate individual requirements in all things appertaining to digestion; and this instinctive self-assertion shows itself in the habit of cooking [i.e., changing] the raw materials of our food. This instinct demands that what is estranged from nature shall be used for human consumption. For were it consumed in the raw state, the average human being would be too feeble to work it up. To use an apparent paradox: to eat would be a perpetual process of remedial treatment, if we did not cook our foodstuffs. And so to eat raw foodstuffs is far more of a remedial process than to eat cooked foodstuffs—the latter being much more merely nutritive. In my opinion there is extraordinary significance in the fact that the consumption of raw food is much more a remedial process than the consumption of food that has been cooked. Raw food diet is much more in the nature of specific curative treatment, than cooked food. I may add moreover that all cooked food is somewhat held up in its efficacy and remains within the regions marked red in the diagram; whereas the substance introduced into the body, in its natural uncooked state, such as fruit, acts beyond the alimentary tract, and comes to manifest itself on the periphery, e.g., causing the blood to bear its nutritive power into the peripheral region.

You may confirm these statements in the following manner, and indeed such tests ought to be made. Suppose you are attempting curative treatment with siliceous substances; then put your materialy the effect of the silicon is increased, because you are contributing further forces to its peripheral operation; you support its formative activity, its tendency to harmonise deformations. Of course I do not allude to gross malformations showing in anatomical deformities, but I mean deformations which remain in the physiological realm. To clear up these is the trend of the silicon, and here you support the trend by the administration of suitable nourishment, while the cure is proceeding. These combinations are what I wish to emphasise in our study of methods, for their operation is extremely significant and because—as I believe—till now, so little studied and understood. They are studied to some extent it is true, but empirically, without any search for a “ratio”; and there we can find so little occasion for satisfaction in considering the work already
available in this field. In all these respects, individuality has to be taken into account. That is why I have already taken the opportunity to point out that it is hardly possible to make any assertion, in this field, which is not on the other hand incorrect in some way. But we must take the things referred to as our guiding lines, although in a particular raw diet, for it would produce this or that, in that particular individual constitution. Here it is advisable—there again it would do harm. The main lines of cause and effect, however, are as we have here described them. Only through such interactions, is it possible to see deeply into the human constitution as a whole. We must particularly distinguish between the periphery, where man is more embedded into the whole cosmos and can only be affected by the introduction of minerals—which are so remote from man—and, on the other hand, the regions I have designated red. These red regions may be influenced and cured by vegetable remedies, as well as by administering substances which are efficacious because of their inherent saline quality: that is, all the carbonates; whilst all alkaline compounds are as it were the median point and balance between the two. *Thus we have in a sequence: carbonates, alkalis, and silicates, or siliceous acid itself.

These, then, are the factors indicating mankind’s relationship to nature around us. We visualise man, split into two parts, as it of the pendulum between these extremes. And we must acknowledge that this discrimination between the peripheral man and the more central individualised man, leads us into the depths of nature. Man is akin to all extra-terrestrial things through his periphery, as is shown by the efficacy of the mineral substances, which are in turn under the dominion of the planets and stellar constellations. Centrally, as in individual he is related to all earthly things. Through this earthly affinity, most fully expressed in the digestive system, man is also this concrete human individual that has the power to think and is able to evolve as a man.

We may consider the dualism in man as a dualism of the extra-terrestrial, the cosmic elements n him, and those which pertain to earth. There is a distinct cleavage in the human organism, between the cosmic and telluric and I have already drawn your attention to how the peripheral, the extra-terrestrial region is mirrored, as it were, in man, in his possessing a spiritual organisation, and at the same time, the polar opposite, a digestive organisation. All that has to do with the elimination of the digestive products and all that has to do with elimination in the brain, and provides the foundation for mental activity—this is the case. On the other hand, all the processes in man, whether fluid or more gaseous in their nature, which are connected with the formation of either urine or sweat—are indications of the terrestrial man as a being which individualises itself. These two polarities of human nature, which strive asunder, must strike us as very significant.
So far as I know, this particular human duality has not been alluded to or treated, in modern times, in any therapeutically valuable manner. For, as you perceive, all the subjects of our inquiry are intended to bring therapeutics and pathology together; therapeutics and pathology ought not to be two separated domains. For that reason the themes of these discussions have a therapeutic orientation; what is pathologically apprehended makes us think in therapeutical terms. That is the reason for the method of my putting forward things here, and of course objections may easily be made, by those who disregard this therapeutic orientation.

For example, anyone who studies the external origin of syphilis must certainly get clear how far there must be infection (approximately at least) in order to develop syphilis proper. Merely to state this abstractly leads us to an emancipation of pathology. Please forgive a somewhat crude comparison—the actual infection or contagion in syphilis is of no more significance than the fact that in order to raise a bump on the head, it is necessary to receive a blow from a stone or some other hard object. Of course, there will be no bump, if there is no blow, nor injury from a falling tile, etc.; but this particular statement remains unfruitful regarding treatment. For—to continue our comparison—the circumstances of an injury from stone throwing forth, may be of great social importance, but these circumstances mean nothing at all in the examination of the organism with a view to its cure. We must examine the human organism in such a way as to find within it the factors that play a part in therapeutics. In the treatment of syphilis, the factors abovementioned play prominent roles, and throw light on the curative process. What is put before you here and now, is so put before you, not so much for sake of pathology as for the foundation of the bridge between disease and cure.

I assert this, in order to characterise and define our work here, its spirit and attitude; this latter will become more evident with every day that passes. In our age there is a tendency to treat pathology more and more as an isolated subject, and without reference to therapeutics. Therefore thought is deflected from things fruitful and—if followed up in the right way—of great significance in the search for all curative procedures. Think, e.g., of our question: what is the true meaning of this duality in the human organism, between the cosmic-peripheral—so to speak—and the terrestrial or telluric-central man? Both these aspects of man are complexes of forces, manifests as formative powers. And I would even say that the last formative “deed” of this peripheral principle manifests as the ultimate periphery of the human frames and completes our human semblance. Examine, for instance, the relation of human hair to silicic acid; notice how in the peripheral region of man the human formative forces co-operate with the region of man the human formation forces co-operate with the formative forces of silicon. You may actually measure the impact of alien influences
which man permits or resists, from the dominance—or the reverse—which is allotted to silicic
acid in the head formation! Of course we must take the rest of the individual’s stature into
consideration as well; but if we merely go along the street nowadays, and can “see together” the
bald heads, one finds out how far a man is tending to admit or to reject the impact of the siliceous
formative process upon himself. This is a result of immediate observation which can be attained,
without actual clairvoyance, but by careful investigation of nature’s own ways. The forces in
question—d they are not at work inside the cells but control the total shaping of man—find their
last expression in man’s structure which of course includes the configuration of the skin together
with its greater or small amount of hair growth and so forth. On the other hand, the more
centralised region, which is more associated with carbon and carbon dioxide—bears in the
shape. We exist as men by virtue of our tendency perpetually of its deformations through forces
proceeding form the cosmos. This is a duality inherent in man: moulding and deforming. This
duality is a continuous organic process. Now, visualise on the one hand, the cosmic peripheral
formative forces which operate on man form outside. In the human heart these forces encounter
the telluric forces; and we have already dealt with the equilibrium brought about through the
heart. And assume that the peripheral forces acting upon man which reach their tidal mark, so to
speak, in the heart, are held back before being dammed up in the heart.†

They diverge and form a diverticulum before reaching the great dam of the heart itself. And in so
doing they form something within our organism, that testifies, though imperfectly, to the operation
of the cosmic formative forces on man. Let us also assume that the contrary forces, working
upwards through the digestive organs and their allies towards the heart, also form a diverticulum
before they reach the heart.‡ Then taking these two diverticulums, we should have here a
concentration of all that is both spiritually and physically formative in man, and at the same time
associated with all the secretary activities in the head and the intestines; a reservoir of forces that
do not come to meet the action of the heart, but create beforehand a kind of accessory heart that
functions alongside the heart. Here, on the other hand, we have a kind of accessory digestive
action, formed by a divergence of the forces originating in the earth and its substances and acting
in man, deforming and dissolving his shape. Then duality in man would be organically established
and expressed; this is how here the female sexual organisation in the light of its dependence on the
cosmic peripheral formative forces. And there is the possibility to study the male sexual
organisation, even its specific forms, if we regard it as dependent on the telluric forces of shape-
dissolution.

This is the approach for really scientific comprehension of our human constitution down to these
regions. Here is also the way of discovery of vegetable remedies, e.g., rich in formative power, which may be found efficacious in restoring paralysed and defective formative forces in the uterus. If you study the formative forces in this way you will find also the formative forces in plants and minerals. This will be considered more particularly, but for the present I must outline the relationship on a large scale. If in the future these things will be clearly seen, then we shall really begin to have a science of Embryology. Today we have no such science, for there is no realisation of the strong impact of the cosmic realm at the beginning of embryological development; the cosmic forces are as fertilising in their operations as the male seed itself. The first stages of human embryological evolution must be studied wholly as part of the relation of man to the cosmos. What was, so to speak, injected with the male seed emerges as time goes on, for the formative forces which the cosmos tends to project into the female organism are so deformed by the operation of the male element, that the cosmic tendency towards a total shape is differentiated in the direction towards separate organs. Therole of the female organisationgoes to the totality of man’s structure; therole of the male organisation, through the operation of the male seed, is specialisation, differentiation, i.e., the moulding of the several organs, and thus the deformation of the original uniform whole. We might say: through the feminine forces, the human organisation tends to the spherical or globular form; through the masculine, the human organism tends to specialise this globe, and divide it into heart, kidneys, stomach and so forth. In the male and female element we have before us the polarities of the earth and of the cosmos. And this is again a subject which leads its students to deep reverence for the primary wisdom, and to listen with very different feelings to the legends of Gaea fertilised by Uranus, of Rhea fertilised by Kronos, and so forth. There is something here quite different from vaguely mystical feelings, in the veneration with which we receive these ancient intuitions, in all their significance. At first one is amazed at such a comment as the following, which comes from scientists upon whom these truths dawn: “The old mythologies have more physiology in them than modern science has,” I can understand the shock and surprise; but the remark has is deep core of truth. The further we advance, the more insistently we realise the inadequacy of contemporary methods—that ignore all the interrelations we mentioned—as guides to the understanding of the human organisation. I will take this opportunity of repeating what has already been stated: namely that the contents of these lectures have not been derived from any study of ancient lore. What is here stated, is gained from the facts themselves; occasionally I have alluded to the coincidence with the primary wisdom; but my statements are never gained from it. If you study the processes in question with
care, you will be led to those conceptions which remind us of some elements of ancient wisdom. I should never myself consider it admissible to investigate any subject by studying the works of Paracelsus. But I am often strongly inclined to “look up” in his books how a discovery which I have made may sound in his language. This is the sense in which I should like you to receive what I attempt to give. But it is a fact that as soon as we look deeper into human nature from the standpoint of spiritual science, we come to a great reverence for primary wisdom. But that is a question which naturally must be considered in other fields of knowledge than the medical.

• *See diagram 18, red.
• †Diagram 18, white.
• *See diagram 19.
• †See diagram 19.
• *See diagram 19.
• *See diagram 19 (yellow).
• *See diagram 20—arrow pointing downwards.
• †See diagram 20—arrow pointing to the left.
• *See diagram 20 (right hand side).
SPIRITUAL SCIENCE AND MEDICINE

LECTURE XI

YESTERDAY we reached a domain very far distant from our starting point. Let us again begin with something quite concrete and material and build upon and around it. You will agree that we must approach our task indirectly and by a circuitous route, because of the shortness of our time, and because of the nature of our themes. We cannot follow the method that begins with the axioms and ascends to more and more complex ideas.

Today, I have undertaken to lead you a stage further on our way, starting from the nature of vegetable carbon, *carbo vegetabilis*. We have already considered the chicory, the wild strawberry and other plants; in like manner we have now to examine the attributes of this remarkable substance, which can be found almost anywhere, but is nevertheless one of the most remarkable materials in the world. This will give the most cogent illustration of the need to widen the horizon of our observations if we wish to obtain a real insight into nature.

It was most interesting to hear Dr. K. maintain in last night’s lecture that the chemistry of the future must become quite different from what it is now and to note how often he used the term “Physiology”—in token of the bridge to be built between physiological and chemical science.

I was often reminded of many matters that cannot as yet be dealt with explicitly in public lectures, as a public audience still lacks the predisposition for understanding. We find carbon in extra-human nature—or in what I might term the mature that appears extra-human to man. For what in the whole of nature’s immensity is really extra-human? Nothing indeed. For all that is external to our being in those portions of the world we are able to observe has been expelled or removed from man in the course of human evolution. Mankind has had to pass through stages of development only possible because certain essential processes take their course in the outer world he is faced with, and he is thus enabled to take certain other processes into himself for his own use. So that there is always a complementary polarity and kinship between certain external and certain internal processes.

I have found a remarkable inner convergence between the remarks of Dr. K. on the necessity for chemistry to become physiological and the interesting lecture of Dr. Sch. the other day on the need for a spiritually scientific concept of the aim and purpose of homeopathic preparation. Perhaps I do not express this adequately, but those who have heard these lectures, especially Dr. K.’s, will grasp my meaning. His final sentences were most noteworthy. He made use of a term, with which I
have been concerned for decades, a term often heard: he said that even homeopathic practitioners are somewhat afraid of becoming “mystical”; i.e., chary of being reputed mystics.

My reason for studying that subject was due to very definite opinions, which were firmly based on facts. The essential thing striven for in homeopathic treatment (do not misunderstand me, it is necessary to use somewhat drastic terms in order to state the case clearly) is not found so much in the substances employed, as in the processes to which these substances are subjected, in the course of preparing the medicaments; for example, the preparation of silicon or of vegetable carbon. The process of preparation contains the clue.

I have made many investigations into what actually happens in the attempt to prepare homeopathic remedies; including for our present purposes, and as corroborated by Dr. R., the Ritter Method (although Fräulein Ritter herself will not admit this). What does in fact occur, when homeopathic preparations are made? For it is the preparation which matters. Take, for instance, silicic acid, and treat it so as to raise its potency to a very high degree. What is it that you do? You work towards a certain point; and in nature everything is based on rhythmic processes. You work towards a certain zero point, through a scale in which the specific attributes of the substance, i.e., those which appear first of all, are revealed. Just as the spendthrift, who has a fortune and wastes it recklessly until he passes the zero pint, comes to a condition in which there is no more positive fortune, but a negative factor, namely debts, so the essential qualities of external substances can be treated. We reach a zero point, where the effects of the substance in ponderable amounts are no longer perceptible. What if we proceed farther? The results do not simply vanish into nothingness; but the opposite effects are produced and are introduced into the surrounding medium. I have always had the experience of perceiving the opposite effect to what is normal to the substances in question, whatever medium was used to receive the minutely subdivided doses of the substance. This medium adopts a new configuration; just as one who changes from the status of owner to that of debtor, becomes a different factor in social life, so a substance changes to a state opposite to the normal, and imparts this condition, which was formerly hidden inside it to its environment. If a substance during its subdivision displays certain characteristics, it changes at a certain point in this subdivisional process, acquiring another character; it becomes able to permeate its environment with the former characteristics, and to activate the medium in which it is treated in the same direction.

This activating process may take various forms. The “opposite reaction” above mentioned may be directly provoked. But it may also happen that this opposite reaction may take the form of causing the substance affected to become fluorescent or phosphorescent, either later on or under exposure to
light. The reaction provoked has thus taken the form of irradiation into the environment. These facts must be given due weight. There is no question here of a plunge into mysticism; it is a question of observing nature in its real activities, so as to enter into its rhythmic course even where we study the qualities of the substances. I might almost call this study *aleit motiv*, a main theme in the search for the effects of substances. Increase potency and you will reach a zero point; beyond that point opposite effects appear. But this is not all; the further path on the negative side leads to another zero point for these opposite effects. Passing the second zero, you will come to a higher form of efficiency tending in the same direction as the first sequence, but of quite a different nature. It would be valuable and appropriate to plot out the different nature. It would be valuable and appropriate to plot out the different effect of potencies by means of curves. But it would be necessary to construct these curves in a special manner; first to delineate a curve and then, on arriving at the point where certain lower potencies cease to work and are superseded by the working of higher potencies, to turn sharply at right-angles and continue the curve into space. We shall deal further with these subjects in this course; they are interwoven with the whole kinship of man to extra-human nature.

Let us return now to carbo vegetabilis. Anyone considering the obvious qualities of this substance would say that, if taken in large doses, vegetable carbon produces a very definite set of disease symptoms. These definite symptoms, according to the views of the homeopathist, may be combated by administering the same substance at a higher degree of potency.

The spiritual scientist views vegetable carbon as something impelling him to turn to extra-human nature and to study the nature of these carbon products, the coal deposits of the earth, which have advanced more in mineralisation. He finds that the main role of carbon in the earth process is in connection with oxygen consumption. The earth’s carbon content regulates the oxygen content of the atmospheric environment. One arrives at a direct insight into the fact that the earth—as indeed must be the case—in an organism, with a function of respiration, and that the carbon content of the earth has something to do with the breath the earth draws. The kind of chemistry demanded in the lecture yesterday will only develop if—so to speak—the “coal being” is considered in connection with the respiratory functions either in mankind or in animals. For in the process which links the carbonisation of the earth and the oxygen process in the atmosphere, there operates something spiritual science recognises as the tendency towards animality; yes, literally, the tendency to become animal. This tendency can only be characterised in a way sure to be found startling. For we must needs state that there is a force at work in the interactions between the carbonisation of the earth, and the processes appertaining to the oxygen content of the atmosphere,
that calls forth real beings, etheric beings, which, however, in contrast to the animal kingdom, are in perpetual motion away from the earth, striving away from the earth’s surface. We can only begin to comprehend animality itself by considering it as something held together by the earth in reaction to this process of “de-animalisation” of the earth. The animals and their processes are the outcome of this reaction of the earth.

To introduce vegetable carbon into the human organism, is, therefore, nothing less than to introduce an element with an urgent tendency towards animality. All the symptoms that ensue, from flatulence to distensions, to ill-smelling diarrhoea and so forth, even to the formation of haemorrhoids, and on the other hand, all manner of acute and burning pains, have this one origin. That animality which has been expelled from mankind in the course of evolution, in order that mankind might attain the full human nature, is being re-absorbed into man. So we are definitely able to say that if we give a patient vegetable carbon in large doses, we thereby urge and impel him to defend himself against the alien process of animality which has invaded him. He does so by strengthening just that principle which he owes to the expulsion of animality in the course of evolution.

This expulsion of animality in the course of evolution, is linked with another potential faculty: — it is amazing but true that man in his organism actually produces primary light. In our upper man we really generate light independently. In the lower sphere we possess those defensive organs against complete animalisation which are necessary to enable the upper sphere to produce original light. There we have one of the profound differences between man and the animal world; the animals share the other higher spiritual processes equally with mankind; but they are not capable of generating sufficient light in their interior.

Here I must touch on what can only be called a really painful chapter of our modern natural science. However painful, this chapter cannot be concealed from you, for the simple reason that it is essential to the understanding of human relationships with the extra-human world. The main obstacle to an objective assessment of the operation in the human organism of substances in general, and curative substances in particular, is the law of the so-called conservation of energy, and the law of the conservation of matter. These laws have been enunciated as universal laws of nature, but are in absolute opposition to the process of human evolution. For instance, the whole nutritive and digestive function is not what it is assumed to be in the materialist conception. This takes the view that the substances in question — let us take carbon as our example — were quite external to ourselves, before being taken in as food; this is consumed, and passed on, though modified in our organism, and re-absorbed eventually so that we carry with us, distributed though
it may be, the matter taken from the world outside us. And this same matter we carry about within
us. There is no difference, in this theory, between the carbon within our organism. But this theory is
mistaken. For there is within the human organism the potentiality of completely destroying extra-
human carbon through the action of the lower sphere; of expelling this substance from space and
then re-creating it anew independently through reaction. Yes, it is true; within us there is a crucible
for the creation of extra-human substances and at the same time a power to destroy them. Of
course, the science of today will not admit this; not being able to think of the substances in any
other way than as a wanderer, in microscopic amounts (restless as Ahasuerus). It knows nothing of
the life of matter, of its origin, of its death, nor of how substances die and are re-born, within our
human organism. This reanimation of carbon is connected with what manifests as the generation of
light in normal human beings. This internal generation of light meets the operation of the light
from the external world. Our upper organic sphere is designed so as to enable external light and
internal light to counteract one another, to operate alternately; and it is the main factor in our
human constitution so that they only work upon each other, without being welded into one
another. Let us suppose that we are standing exposed to the light from the external world, receiving
it either through our eyes, or through our whole skin. There is a screen, so to speak, between the
internal, inherent light within us and the light that operates from without. This external light has
actually only the value of an activator for the generation of internal light; thus in letting light pour
upon us from outside we activate ourselves to produce inner light.

Now examine this whole process some way further. Consider the region in us which is engaged in
the decomposition of carbonic substances. This comprises the kidneys and the whole urinary
apparatus and all the related organs situated above the kidneys. We approach the renal process
within man, if we envisage the process associated with carbon in extra-human nature. And
concurrently we find the way in which to apply substances such as vegetable carbon to man. First
let us take the minor forms of illness and reason as follows: we have first and foremost in
vegetable carbon, the possibility of counteracting that animalisation in man which provokes
nausea; and all the diseased phenomena for which dosage with vegetable carbon is indicated, are
forms of nausea, and that nausea continued into the interior regions of our bodies. Against the
processes there in operation and their products, the effective polar opposite process is the function
of the kidney system. Thus if the patient exhibits the symptoms that can be artificially provoked by
heavy dosage of vegetable carbon, you can stimulate and promote the whole kidney process with
higher potencies of vegetable carbon and in this way counteract the particular diseased process
which resembles the effect of vegetable carbon upon man. Thus it must be essential to consider the
response of all renal activities to the increase of potencies of this remedy.

The kidney process may also operate in such a way as to accentuate its polarity to the digestive process; that is to say that in the case of a disturbed digestion (the result of the symptoms distinctive of vegetable carbon) the polar effect appears, of the morbid process in the diseased digestion in the intestine. In short, the result and reactions of administering vegetable carbon, are in opposition, on the one hand, to the generation of light. You will realise the meaning of these comments, if you visualise the following conditions. Here, then, is the earth, surrrounded by air, and over or outside the atmosphere is something different again. The outer layer beyond the atmosphere is first of all what may be described as a sort of warmth mantle round the earth. If we could ascend straight from the earth through the atmosphere, we would enter a zone of very different warmth conditions, surprisingly different from what we know on the earth’s surface. At a certain distance from the earth in space, the contents of this warmth sphere perform much the same office as the atmosphere itself within and below that zone. What of the region beyond? Here we represent the extra-telluric warmth sphere, and here the atmosphere; and beyond, the polar complement of the atmosphere, a region wherein conditions are the complete opposite of those within the atmosphere. In that region, in a state of—if I may coin the word—de-aeration, where the very existence of air is annulled, is the source of what shoots up through the de-aeration and is sent towards us as light.

It is a grave error to suppose that our light on earth comes from the sun. That is only a somewhat fatal fantasy on the part of physicists and astronomers. Our light on earth comes from this outer zone. There it springs up, there its is generated, there it grows as plants grow in the soil of the earth. And so we are entitled to say: if man has the power to generate original light of his own, it is due to the power he has reserved to his own formative process, to execute something that is done—apart from him—only in this upper and outer region; he bears the source of an extra-telluric activity within himself. This cosmic source of power operates on the whole of plant life as well as upon mankind; but it affects the vegetable world from outside, whereas man holds something within, which links him with this upper sphere.*

Now let us ask ourselves; suppose we approach the earth more closely than the atmospheric envelope; do we then penetrate again into man, by that way? Yes: for as we approach the earth out of the atmosphere, we come to all that is flu’d, to the watery element, and we may correctly envisage a fluid zone beneath the zone of air. The fluid zone has also its counterpart, which lies beyond the light-generating stratum. There again, all conditions are the polar opposites of those obtaining in the watery belt round the earth; and there, too, forces spring to life and operate on the
earth, as light is born in and operates from the zone immediately below. These are the chemical forces working down into the earth, and it is an absurdity to seek for the chemical effects observed on earth, in the various substances themselves.† You will seek them there in vain. They come down to meet the earth from these regions outside.

But again man bears within him something analogous to this extra-telluric region. If I may so express it—man contains a “chemicator.”

He has within him something of the celestial sphere that contains the source of chemical action. And this function is highly localised in us, in the liver. I ask you to study the remarkable scope of the functional activity of the liver. On the one hand, it exercises what I might call a form of suction, determining the composition of the blood; and on the other hand, by means of the secretion of the gall, it regulates the process leading to blood formation. Consider these manifold activities; and you will have to recognise something which, if carefully studied, leads to a proper chemical science. For the external chemistry of outer science is not to be found on earth; it is a reflection only of the extra-human “chemical sphere” above. But there is a means of studying this extra-telluric sphere in all the wonderful workings of the human liver.

Now let us return to vegetable carbon and its “internal” attributes, by combining vegetable carbon with the alkalis, for instance with potassium itself (Kali Carbonicum), and studying the resultant effects on the human organism. All alkaline substances (of the nature of lye) operate towards the interior of the organism, affecting the processes of the liver; whilst all substances akin to vegetable carbon tend to affect the kidneys and urinary tract. We shall be able to trace a distinct interaction between all that is of the nature of lye and all the processes associated with the liver. Careful study of such substances would prove that, just as all carbonic substance is linked with “animalisation,” so all that is akin to lye, is associated with the “vegetable tendency” in man and with the casting off of the vegetable kingdom from mankind.

In previous lectures, I have pointed to a process which can help us read the human processes from the activities of Nature. I have referred to what we may simply term the formative process of the oyster shell. In that process, we pass from the resultant of combining carbon with potassium, to the combination with calcium. But the effects that would follow the combination of carbon and calcium, without any third element, are much modified by the powerful phosphoric forces at work in the oyster shell. All these forces are mingled in the oyster shell with certain others, found in the marine environment. And the consideration of the formation of these shells, leads us a step further into the relationship between external nature and man. Let us pass downwards through the watery zone round the earth,* and come to the actual earth formation, to what we might term the
solidification. (We should not have any hesitation today in referring to earth, water, air and fire—if the terms linked in association had not become unfashionable and unpopular, as having been used by ignorant folk of old! But among ourselves, surely, we are at liberty to refer to these things.) This solid structure of earth has also its counterpart in the cosmos; and this is the realm of vitalisation, the source of all life formation. The vital forces come to us from a further distance even than the chemical, and within the extra-human earth—that is in the “earthly sphere” proper—they are completely killed.

Moreover, our earth would come to exuberant growth and would form ebullient living outgrowths of carcinomatous nature, if this hypertrophy were not checked by the workings of the extra-telluric Mercury (the planet) which develops the mercurial process. It is of value, even once to have realised and thought over this matter. The formative force active in earth formation, in the formation of earth substance, we may see retarded as it were, held back at an earlier stage, in the formation of the oyster shell. The oyster shell is withheld from becoming part of the earth’s structure, by its ancient and persistent link with the sea, and thus preserves the formative earth process at a more primitive stage when it solidifies. Earthworms cannot do this as they have no shell. But the same forces proceed from them ceaselessly and therefore it is entirely true to say that if there were no earthworms, there would be no formative forces inside the earth. These worms play a leading role in the process of earth formation. The whole world of the earthworms represents something that passes beyond the formation of the oyster’s shell, and has just as much a relationship to the whole earth as the oyster shell. And so the shell formation is suppressed and there arises instead the processes in arable soil and all related processes.

In seeking for the next process, situated still more deeply in the interior of man than that related to the chemical forces and the liver, we come to another human organ—no other than the lungs. The lungs have a dual aspect and office in the human body. The lungs are, of course, the organs of respiration. But however strange this may sound, they are organs of respiration only in what I might term their external aspect. They are at the same time regulators of the internal—the deeply internal—process of earth formation within man. If we follow a way passing from outside the body inward, beginning with the nutritive and digestive process, through the successive formative processes of kidneys, liver and finally lungs: —i.e., to the actual internal formative process of the lungs, apart from their function of drawing breath—and if we examine this process, we find the polar opposite of that which manifests in the oyster as shell formation. The human constitution has interiorised in the formative process of the lungs that which lie outside and above the chemical zone* in the outer universe.
Consider the actual symptoms in man, following certain effects of calcium carbonate, and you will again see the strong resemblance and relationship to those activities essential to the vital processes of the lungs in which they manifest their separate life. It is, of course, difficult to distinguish these activities from those entirely ruled by the process of respiration. So it is especially necessary to bear in mind that the lungs serve the human constitution in two directions and in two ways: they have a functional office towards the external world, and a functional office towards the internal as well. Degenerative conditions of the lungs must be sought in processes similar to those proper to shell formation in oysters or similar creatures, such as, for instance, the shell structure of snails.

Today we have approached yesterday’s theme from the other side, as it were. The circle we completed yesterday was more perfect, but we shall continue and hope to complete today’s line of reasoning in the succeeding lectures. We have learnt to see the activities of kidneys, liver and lungs respectively as the counterparts to the external activities in the air, in water and in solid earth. The aerial activities correspond to all that appertains to the kidney system in its widest sense, including all the urinary functions. The innermost part of this functional system, the kidney itself, is connected with the air supply and thus shortness of breath can arise and this symptom you will note among the after effects of dosage with vegetable carbon. So we may say that the deeper causes of respiratory disturbance and shortness of breath, must be sought for in the kidney system.

All that is associated with the fluid (watery) elements has its deeper causation in the liver system. Just as the shortness of breath and its regulation are associated with the kidneys, thirst is associated with the liver. It would be an interesting investigation, to study the interactions of the various qualities and peculiarities of thirst in man, with the operations of the liver. And the manifestations of hunger and all its accessory symptoms are intimately connected with the internal condition of the lungs, with their internal metabolism as it were. On the one hand, of course, hunger, thirst and the need to draw breath, are associated with the ponderable factors, air, water and earth. With their counterparts in the cosmos may other factors be associated. It is understandable, for instance, that if we need the activating stimulating influence of light—because the force within us that generates the “juvenile,” original light has abated, we can best obtain such stimulation from light itself. This is the justification of the light treatment. But light-baths are not always exactly and only light-baths, and this “not only” is important. They are really an exposure to the powers of the chemical zone, an exposure much greater in extent than is normal in the course of our daily life. The really effective factor in most light-baths, is the external “chemism” pouring earthwards concurrently with light itself. And behind the chemical forces, as may be seen
in the rough sketch plan before us,*are aligned the vital forces themselves, which are also in attendance, as it were, if man is exposed to increased light and increased chemical influence. Thus both the action of chemical forces and the action of vital forces, carried by the light, are extraordinarily beneficial, provided always—and this is all important—the dose is correctly estimated, and care is taken to avoid excessive exposure.

One final comment; you surely need no longer find it strange that current natural science has not succeeded in forming a conception of the genesis of life itself. For in all the regions in which current natural science conducts its search, there is only life’s polar opposite, thanks to the action of Mercury; there is only death. Life must be sought outside the earth, in regions into which contemporary natural science is not willing to go. Contemporary science refuses to enter the extratelluric region. And if it cannot be avoided—well, then, that too is interpreted in materialistic terms. There has been a very fine translation into materialism of the operation of extra-telluric vital forces. It runs as follows: the germs of life have been brought to our earth from other celestial bodies. So these germs of life have been brought through all distances and hindrances, with such beautiful efficiency, to appear safe on earth at last; and indeed some scientists have believed meteors and meteorites to have been the high-powered motor cars that brought them here! You see, people actually think that anything can be explained by means of such a materialistic theory. People are used to shift the explanation of phenomena observable on the visible (macroscopic) scale into the microscopic or ultra-microscopic realm, in theories of molecules and atoms; so they believe they have also explained life simply through shifting its origin to another place.

- *See diagram 21.
- †See diagram 21.
- *See diagram 21.
- †
EVERYONE who has the task to heal should acquire a fundamental feeling for the surprising connections between extra-human and intra-human facts. For significant intuitions can emerge from such study, particularly in *Materia Medica* and therapeutics. To take an obvious example, let me remind you of such substances as Roncegno-water, which are as though compounded by some beneficent spirit—to speak figuratively—preparing ready for use, in the world of nature, so many diverse ingredients capable of acting favourably within us. We shall later on deal with these matters in greater detail, but if we bear in mind the remarkable manner in which the two forces of iron and copper blend and temper one another in the water from these spas, and the addition of arsenic, as though to make their mutual compensative operation even wider and more firmly based, we must say to ourselves: here in external nature is something just prepared for certain conditions in mankind. Of course it can happen that these substances have an extremely unfavourable effect on certain individual cases. But the general validity of the main principle is shown even in negative cases, and corroborated. It is advisable, especially at the present time, in dealing with these subjects to remember the possibility of meeting and counteracting such morbid symptoms as have not manifested themselves until our age. Do not let us forget that objective observers on all sides are recognising that peculiar conditions are beginning to affect certain regions of the earth’s surface and bringing peculiar forms of disease in their wake. And do not let us forget another current development of great relevant interest; even such a disorder as grippe (influenza) has indisputably acquired strange features, in its recent form; the power of rousing previously latent sicknesses to which the individual organism has a tendency, but which might otherwise remain hidden throughout life. These latent morbid trends are uncovered, as it were, when the patient is attacked by influenza.

These matters compose a bundle of questions, upon which I will base our next lectures. The most fruitful approach will be from the consideration of another remarkable circumstance, which perhaps only the spiritual scientist can fully appreciate. As you are aware, oxygen and nitrogen are mingled in our atmosphere; they are loosely mingled in a manner which cannot be exactly defined, either in the terms of physics or of chemistry. And we, as men and as earthly beings, are wholly enmeshed in the combined activities of these two elements, oxygen and nitrogen, and one can therefore assume from the outset that there is some significance in the relation of oxygen to nitrogen in our atmosphere, and in their normal ratio.
Spiritual Science shows us this significant fact: every change in the composition of the atmosphere which alters the normal proportion of oxygen to nitrogen, in either direction—is associated with disturbances in the process of human sleep. That leads us to inquire into this hidden relationship more definitely. You know that in Spiritual Science we have found it necessary to state that man consists of the following four members: *the physical body, the etheric body, the astral body and the ego*. You know that we have been led by the facts themselves, further, to maintain that when sleep begins ego and astral body separate, in a sense, from the other vehicles, though this separation takes place more in a dynamic sense, and return again when the individual awakes. Thus you must conclude: in the state of sleep there is a bond between the astral body and the ego, and another bond between the etheric and physical bodies; so even in the waking state, we must accept a less intimate connection between astral body and ego on the one hand and etheric body and physical body on the other, than between the ego and astral body or between the etheric and physical bodies. This looser link between the two groups, the upper human entity, ego and astral body and the lower human entity, etheric and physical bodies—is a true mirror-image of the loose admixture of oxygen and nitrogen in the external atmosphere. Both correspond in a remarkable and astounding way. The composition of the external atmosphere is of such a nature as to furnish the ratio for the connection between astral and etheric bodies, and concurrently between their partner, the physical body and the ego.

This will also naturally make us attentive as to how we have to act in regard to the composition of the air, how we must notice whether we are in a position to give men air or whether to deprive them of it. Now you are able to take a more physiological approach, and to note the working of this correspondence. Pass in review all the substances at present known to us, and active in the human organism; and you will find that (with two exceptions) all these are found in combination with other substances within the human organism; as a rule we find compounds and solutions. Two only appear in their pure state within us; these are oxygen and nitrogen. So these main components of the atmosphere play also particular parts within our human bodies. Their interactions form as it were the very core of the substances in us. Oxygen and nitrogen are linked with the functions of the human organism; and they act as the only elements operating in their pure state, and not modified or deflected by other substances combined with them in the human organic sphere. So there is not only great significance in the actual presence of external substances, traceable within the human organism; we must also follow up the manner of their occurrence, and consider whether their operation remains free, or is bound up with something else. For the peculiar thing is that within the human organism, matter acquires special affinities to other forms of matter, and specific
kinship. So if we introduce a substance into the organism which already contains a certain other substance, these affinities can become apparent. Follow this up, and you will come to a quite definite revelation, which spiritual science must point out. You are aware that vegetable, animal and human organisms are alike based on proteins, on albuminous substances. You know that, in the terms of contemporary chemistry, the main ingredients of albumen are the four main natural substances, carbon, oxygen, nitrogen, hydrogen, and, in addition, sulphur, as, so to speak, a homeopathic agent in the operations of the other four.

It is necessary to form an idea of how the internal function of albumen is brought about; how is protein made? Contemporary chemical science must obviously and conformably to its premises reply: — Oh well, any such substance has the configuration proper to its inherent forces. It follows that one identifies things which are to its inherent forces. It follows that one identifies things which are actually not at all the same, or that are not similar as much as is assumed. Sometimes a certain dissimilarity is recorded, and in any case the identity is invalid. In consequence of the application of atomistic theory to the structure of albumens, vegetable albumen and animal albumen have been viewed as very much alike, and up to a certain degree at least chemically identical. But that is absolutely not the case. A closer and more exact study of our human organism recognises the fact that vegetable albumen neutralises animal and more especially human albumen; that the two are in fact polar opposites, and that each annihilates in an intimate way the effects of the other. It is strange indeed that we must admit; animal albumen is of such a nature in its functions that these functions are impaired, abolished partially or even wholly abolished, by those of vegetable albumen. And this leads us to the question; Well, what is the exact difference between what appears as albumen in the animal organism or especially in that of man, and what appears as the same substance in the organism of plants? It is in your recollection that I have had frequently to mention the important part played in relation to all extra-telluric meteorological processes by the four organic systems, bladder, kidneys, liver, lungs, and their complement, the heart. Those four organic groups are most important in determining how man is affected by the meteorological happenings in the external world. Now: What is the significance and office of these four systems. These four organic systems are nothing less than the creators of the structure of human albumen. So we must study them, and not the atomistic and molecular forces in the albumen substance. In our inquiry “Why is albumen what it is?” we must conceive of its internal structure as the resultant of forces emanating from these four organic systems. Albumen can be called the product of this four organic systems. Albumen can be called the product of this fourfold cooperation. With this we state a remarkable fact in respect of the interiorisation of external forces.
within man. What contemporary chemistry looks for in the actual structure of the substance in question, we look for and find in the organic systems of the human body. Therefore the characteristics structure of human albumen cannot conceivably exist in the external terrestrial sphere; it cannot remain unless it is under the influence of these four organic systems. In other conditions it is bound to change its structure.

But it is otherwise with vegetable albumen. Vegetable albumen is, so it seems, not controlled by any analogous group of organs, but it is under another influence; namely, of the four elements, oxygen, nitrogen, hydrogen, carbon and also under that of the meteorologically omnipresent mediator between these four main elements, namely sulphur. In vegetable albumen, these four elements dispersing themselves throughout the atmosphere, perform the same office as the lungs, heart, liver and so forth, within man. External nature contains in these four substances the same formative forces as are individualised in the human organism through the four main groups. It is important to remember that in speaking of oxygen, hydrogen and so forth, we should not limit their meaning to the inherent forces and attributes recognised by modern chemistry, but that we should conceive these elements as possessing formative forces, with activities which affect one another mutually, and by which they contribute to the furnishing of the earth sphere. If we consider them separately and in detail we must identify the external operation of oxygen with the internal operation of the kidney and urinary system. What is done in the outer world, by the formative forces of carbon, we must identify internally with the pulmonary system: not regarding the lungs however as organs of respiration, but as possessing particular formative forces. We must identify nitrogen with the liver system, hydrogen with the cardiac system. Hydrogen is indeed the heart of the outer world; and nitrogen the liver of the external world, etc.

It would be well, my friends, for humanity today, not only to let itself be persuaded to recognise these things, but to work them out for itself. For example, in recognising the association of the heart system with the formative forces of hydrogen, you will readily admit the essential importance of hydrogen circulation for the whole upper bodily sphere in man. At the present time there is no great inclination to admit these interrelationships. Nor will there be, as yet, much wish to go outwards from man into the external world, recognising the specific working of lead, as something associated with the fact that hydrogen is made ready by the heart, and then serves as carrier for the preparation of the apparatus of thought. Nevertheless the unconscious drogress of human evolution is compelling mankind to recognise this fact. For today it is no longer possible to deny that lead plays some role in the external world, even if only from the lead plays some role in the external world, even if only from the functional standpoint; as lead has been actually found
among the products of transmutation which Röntgenology has discovered; lead has been actually found as a final product formed by way of helium, not with the usual atomic weight, as a matter of fact; but still it has been identified as lead. Furthermore, as lead has been discovered, so shall we also find tin, and iron as well; iron that as the only constituent of external nature, impinges directly upon our human constitution. Surely today we need to give heed not only to the science of Röntgen rays, however wonderful as a guide and fingerpost to the cosmos external to ourselves, because it speaks not only of the crude metallic ores within the earth, but of the metal forces playing upon us from the extra-telluric sphere. That must be said nowadays. For the emergence of new types of disease shows the necessity of taking these factors into account.

What interests us here is the fact that the function performed in the external world by carbon, hydrogen, oxygen, nitrogen and their mediator sulphur, is being individualised in man through the four organic systems. Correct estimation of this fact will lead you deep into the core of man. Then you will no longer find it strange to bring the involuntary elements in our nature—i.e., those which seem to be under the control of the spiritual functions—into association with the whole extra-human world. For on the other hand, observe this truth also. Man is so constructed as to have, for instance a certain system of organs which we know as the kidneys. But each of the four systems has an urge to become the whole man: the kidneys have an urgent tendency to become the whole man; the heart has the same tendency, so has the liver, so have the lungs. In order to convince oneself of such facts, it is helpful to turn one’s eyes—or rather one’s sensitivity—to observe certain workings of extra-human realities in one’s being. It is hardly possible to avoid drawing your attention to the borderline where Natural Science passes over Spiritual Science. For, indeed, if you continue your practice both in medicine and in meditation, and learn to put yourself more and more in tune with the life of meditation, feeling yourself as a meditating human being, you will gradually arrive at a concrete and real self-knowledge. Such a self-knowledge is not to be despised if it comes to such positive tasks as the cure of disease! If you attain further progress in meditation you will become aware of things in your own bodies which were originally quite beyond consciousness. You have only to become conscious of this new awareness, in order to learn what it is as yet difficult to mention and describe in public lectures or even before lay audiences, because of the tendency which then arises. I shall presently refer to one of these elements, elementary as it is. But if these matters were to be broadcast indiscriminately in wider circle today, among mankind in its present moral condition, there would at once arise the query: “Well, why are these powers not utilised?” Followed by the conclusion: “Yes, I should have to practise meditation—and I can get the same result more easily by simply incorporating this or that substance.” It is more convenient
to diet or inject, than to practise meditation. By taking that course, mankind decides in a certain sense on moral ruin. But with their contemporary moral constitution, people would not hesitate—you will see the core of my argument presently—to reject meditation in favour of some external remedy, which would, we must admit, help them, on the first steps of the road, to results similar to the fruits of meditation for some time, and are disposed to register its effects, you will observe that you have become aware of the radiating iron forces, just as you are normally aware that you have hands with which you take hold and feet with which you walk. It is indeed the case that the awareness of our legs and arms, or our heads, to move and turn etc. Yes—what emerges is the consciousness of ourselves as a framework phantom of iron. The consequent danger to which I have referred is that most people would reason thus: “So far, so good: then it’s possible to augment one’s sensitivity to iron, the susceptibility to the iron within one’s self, by means of some remedy, that will have the same effect as meditation.” Up to a certain point this is completely accurate. But there is danger in the experimentation on such lines, in order to attain what is termed clairvoyance easily. Such experiments have been made occasionally. If they are made as, in a sense, exploratory sacrifices on behalf of mankind, the case is different; but if they are made out of curiosity, they undermine the whole ethical structure of the human soul. Now Van Helmont was one of the sages who experimented widely and boldly on himself, in this direction, and discovered many things, through such experiments; and you can read these results in his writings, to this day. He differs from Paracelsus; for with the latter one feels that his understanding rose in an atavistic way from within and that he carried elements of the super-earthly world into the ordinary world. Whereas Helmont repeatedly received remarkable illuminations as a result of self-administration of various substances. This is shown by the way in which he presents his subject; moreover, I believe he makes quite definite statements to this effect, in some passages. This, then is the first possible attainment (through meditation); the internal sensitivity for the radiant force of iron, for that unique working which comes forth from the upper bodily sphere, and ramifies into all the limbs. One gets the definite conception—I say expressly the conception—that one is dealing internally with iron, that is with its function and its forces.

In attempting a graphic representation of this iron radiation, I must mention that by its very nature it is not adapted to act beyond the human organism. The feeling persists: what is radiating forth is nevertheless localised within us, and remains so. There is a counteracting force from all sides, which dams and stores up the iron forces. It is as though the iron rayed outwards to the human periphery with positive force; and there met a negative radiance from something which hits back, advancing as it were in concentric spheres. This is what can be perceived; the one element
radiating forth and the other coming to hold it up; we therefore feel that we knock against something and cannot pass beyond the bodily surface.

And gradually we realise that the negative and opposing radiance is the force of albumen. Thus the iron introduces into our organism a display of functions which are opposed by all that comes from the four organic systems to which I have already referred. These systems resist the iron rays; and the struggle goes on continually within the organism. This is as it were the first thing which becomes perceptible to the inner sight. When we begin to study the spiritual history of mankind, we can plainly see that the Hippocratic School of Medicine, and even that of Galen as well, still used conceptions which are relics of such internal observations. Galen was no longer in a position to observe much in this way but he recorded all sorts of traditions from earlier ages, still current in his day. If we can read him aright we shall find that the archaic atavistic medical wisdom, whose decline begins with the advent of Hippocrates, still shown through much of Galen’s writings, and is the source of many valuable views on the healing processes of nature contained in them.

In pursuance of these phenomena, we find we must study on the whole these two polarities throughout the organism, these radiations and that which opposes them and damps them up. There is need to keep this distinction in mind, for all that tends to form albumen, in the manner described above, is associated with the damming up action, and all of a metallic nature introduced into our bodies, has to do with the radiating forces. Certainly there are exceptions and characteristic exceptions, but they are so distinctive as to reveal other aspects of the whole amazing complex of forces, assembled from all the ends of the universe and focused in our human organism. In order to comprehend their scope it is necessary to follow up somewhat the indications already given here in outline, which you may work out in detail. Thus, I need only mention this fact: The carbon content of plants—for instance the vegetable carbon already dealt with—is lacking in an ingredient which is generally—practically always—present in animal carbon: that is a certain amount of nitrogen. This is the reason why animal and vegetable carbon react differently especially when exposed to fire. This difference in the action of vegetable and animal carbon respectively, draws our attention to the further difference in the action of metals and non-metals in general within the human organism. In other words, the action of the radiating out and the damming up substances.

This polar interaction gives the clue to many important things. We have often had occasion to mention the various periods of human life; the period of childhood lasting till the cutting of the permanent teeth; the period between second dentition and puberty, and then the period from
puberty to the beginning of the twenties. These periods are linked with intimate happenings within the human organism. The first period, ending with the cutting of the permanent teeth, means, as I have had occasion to point out, a concentration of the whole organic activity on the formation and insertion of the solid scaffold into the body; this process reaches its culmination in the teeth which protrude from the solid scaffold. Now it is evident that this crystallisation of solid substance within the still largely fluid young human body must have to do with the whole building up of the human shape, especially towards its periphery.

We must attribute much of the result achieved to two substances, which receive far too little attention in their effects within the human organism: these are fluorine and magnesium. In the—so to speak—rarefied form in which they occur within us, both fluorine and magnesium play prominent parts, especially in the process of shape formation in the child, up to the change of teeth. The forming and fitting of the solid framework in the human organism takes place through continuous interaction between the forces of magnesium and fluorine respectively: in this interplay, the forces of magnesium and fluorine respectively; in this interplay, the forces of fluorine act plastically, mould as a sculptor moulds, fill out contours and bar the wary to the forces of radiation, whilst magnesium acts as a radiating force and constitutes the fibres of tissue, etc., into and along which the substance arranges itself. It is not a senseless phrase, but wholly in accord with the course of nature to say that a tooth is formed thus: It is shaped, as far as its circumference and its cement is concerned, by the activity of the plastic artist “fluorine,” and magnesium pours into it the forces which have to be shaped to a plastic form.

So it is necessary to keep even balance between the supplies of these two substances in early childhood, and if this balance and proportion are not achieved, it will always be found that the teeth become defective at an early age. As soon as the first tooth appears, the particular formation of the teeth should be noted carefully, and whether the child develops a weak enamel cover or the teeth are too small and sparsely set—we shall deal with these symptoms in detail, but at present we are approaching the subject gradually—any defects should and can then be counteracted by means of administering either magnesium or fluorine in suitable compounds.

This affords a direct glimpse into the formative process of man. Even in the earliest years of life, there is this interaction between fluorine and magnesium, that is an interaction in which the agents are of a decidedly extra-human character in the constitution of their substance—for during the first years of life, man is mainly a link inserted into the external world. So fluorine comes from the external world, to counteract the centrifugal radiance of the metal.

For the third vital epoch, a similar importance adheres to the even balance between iron and
albumen, the whole formation of albumen. If there is not the requisite even balance, and there are
not strong beneficial counter-agents against the effects of disproportion between iron and
albumen, we have all the symptoms externally typical of anaemia. It simply does not suffice
merely to note the presence of this symptom or that; decayed or misshapen teeth which have been
directly caused by faulty conditions in early youth, for instance, or the blood chemistry
characteristic of anaemia. We must penetrate into the secret depth of the human organism as a
whole, if we would understand what exactly happens to man in sickness.

You already know, more or less, the particular metals which share in the upbuilding—the interior
upbuilding—of the human organism. They do not include—with one exception, namely iron—
those to which I have referred as in some way the most important ones: lead, tin, copper,
 quicksilver, silver and gold are not directly engaged in the functioning of the human organism, but
have their part in us nevertheless. Take, for instance, that substance which contributes to the
peripheral formations of the human frame; we refer to silicon, with which I have dealt already. Now
the processes within us are not bounded by our skins; man is interwoven with whole web of the
universal processes. Just as the substances mentioned above are of significance internally, so also
the main metals enumerated here, are effective upon man although external to our organism. The
part of the mediator is given to iron. Iron plays the mediating role between the sphere within the
boundary of the human skin, and that outside this within the boundary of the human skink, and
that outside this boundary. We may therefore maintain that the whole pulmonary system—
“pulmonary man,” possessing the urge to become a whole man—is strongly linked with the whole
human relationship to the universal life of nature. If we regard only what become visible in
dissecting the body, we are taking for the whole, what is only a part. The visible body is not the
whole, it is that part of man which is opposed to extra-human agencies; to the operation of lead,
tin, copper and so forth, which are external to our bodies. Even if we look at the human
organisation only from the point of view of natural science, we must never regard man as bounded
by the epidermis. We must take into account not only the workings acting from within, outwards,
but also all these workings which give a general direction to his organic processes. That the latter
play an important part may be realised in the light of the following facts.

You know that certain substances operate in the human organism simply through being bound up
with either bases or acids; or appear, to use the technical term, neutrally in the form of salts. Thus
bases and acids act as complexes of antagonistic forces, which neutralise each other in salts. But
this is not all. How does this triad, acids, bases and salts, operate within the human system or
organic forces? We shall find that all bases have a tendency to support such human processes as
begin in the mouth and continue through digestion, i.e., from front to rear; and indeed all other processes with the same line of action. And as the basic substances have to do with this direction, so the acids are equally associated with the reverse. Only in studying the opposition of bases and acids. And saline substances stand at right angles to the two opposites, pointing vertically earthwards. All processes directed from above downwards centripetally are those into which the saline element thrusts itself. Thus we must keep these three spatial directions clearly in our minds, if we seek to determine how man enters into the triad, bases, salts and acids. Here again is an instance of the manner in which the purely external chemistry of metals is linked with the physiological, through the observation of man, for here you see clearly the directive forces. Here, too, you have the whole relationship of salt nature to the earth, as well as the direction of basic and acid substances. We can summarise the whole thus. If we imagine the earth’s surface, the saline substances tend downwards towards the earth, and bases and acids tend to spin around the earth in circles. And simply by learning something of the spatial directions of the organic functions, we are in a position to intrench upon them. Here an essential curative measure is the external application of remedies, through friction, by means of ointments, and so forth. One must find out what operates in a certain direction after external application. Under certain conditions, the vigorous action of mustard plasters, or of certain metallic ointments—suitably compounded by course—is as effective for the whole organism, as is internal treatment. But—as you will deduce from what has been put before you—we must be careful to choose the right method of application. For it is not at all the same whether the plaster or ointment is applied to this or that part of the body. It is essential to choose the spot of application so as to stimulate counteraction against injurious forces. It is not always the most efficacious way merely to put the remedy directly on to the seat of the pain or irritation.

* See diagram 22.
* See diagram 23.
SPIRITUAL SCIENCE AND MEDICINE
LECTURE XIII

IT IS possible that the more materialistic tendency in medicine may assume a more spiritually scientific orientation, in respect of three groups of facts; we shall now consider certain of these groups. The first includes all fact connected with the origin, development and possible cure of tumours. The second includes the so-called mental diseases, and their really rational treatment. And finally there is the field of externally applied remedies, ointments, salves, and so on.

We can hardly hope to reach the understanding of tumorous growths, with their culmination in cancer, by means of merely physical methods, unless the insight given by spiritual science serves at least as a guidance. And contemporary psychiatry is in such a sorry state, mainly because there is no conscious bridge between it and the usual pathology and therapeutics—though such bridges abound everywhere in nature—that it is probable that these two special fields will be the first to approach the standpoint of spiritual science. They will need to mark all that spiritual science can tell them, and even now you have only to refer to my publications, to realise that spiritual science has already told them a good deal. It will be necessary, in fact, to take into account the whole of the intervention of the etheric body, within and on the physical organism.

For indeed no one should merely assert that clairvoyance is needed in order to show how the etheric body acts within the organism. It is possible to see that the etheric body is not active in a certain way—or is not adequately active—through the observation of very many processes which are opposed to the action we must take into consideration all the manifestations associated withinflammation or developing out of inflammation, and also all that is associated with the formation of tumours, and spreads its destructive activity through the human body. In the case of tumorous growths there is today a very justifiable effort to dispense with the surgeon’s knife in the treatment of tumours. This endeavour is, however, blocked and often frustrated by social, especially hygienic, conditions which should, and must, be changed. But we must find a substitute for surgery: both for what it certainly achieves in some respects, and again fails to achieve in others. Doubtless there are many persons who at present advocate operative surgery, for the simple reason that they know of no alternative, but who would be converted immediately if and when the alternative were available.

There is no need for me to analyse the whole nature of inflammatory processes, in their specific forms as affecting the different human organs. All that I can take as already familiar to you. But the unifying process, which is common to all inflammations, is not a matter of familiar
knowledge. This unifying common process is perhaps best characterised as follows: in all cases of inflammation, whether very slight or very acute, and leading possibly to ulcers, spiritual science finds that the etheric body of the patient remains as a whole in working order. Thus we may be sure of being able to do something to restore the full efficiency of this etheric body, which has become impaired or impeded in a particular direction, to redistribute its workings, so as to make it a healing source. Our aim is to direct the activity of the etheric body in definite directions, whereas the healthy etheric body acts throughout the organism and permeates it in all directions. It is possible to set up reactive processes—we shall deal with them presently—which have power to stimulate the etheric body in regard to a system of organs in which its activity has become slack; so that, provided the etheric body as a whole retains a certain measure of health, it resumes its universal efficiency in this special direction.

But tumorous formations of every kind are a different matter. They arise primarily from the actual enmity of certain processes within the physical body, against the action of the etheric body; these processes rebel as it were, so that the etheric body ceases to act in certain regions of the physical body.

The etheric body, however, has very great powers of regeneration and the methods of spiritual science reveal that if it is possible to remove the hindrance and to expel the inimical action, the tumour can be overcome. We may lay down the rule that in cases of tumour, it will be necessary to stimulate through the forces of nature, the removal of the counteracting physical processes which oppose the etheric body, so that the etheric body may once more extend its working to the region where it had temporarily receded.

This principle is particularly important, let us say, in the treatment of carcinomatous growths. Carcinoma, if objectively studied, shows plainly, in spite of its great diversity of form, that it is essentially a revolt of certain physical forces against the forces of the etheric body. For instance, the characteristic indurations, which are so perceptible in the case of deep-seated carcinomatous growths, and though less perceptible still present when the growths are nearer the surface of the body—these reveal the preponderance and the encroachments, so to speak, of the physical structure over the etheric structure, which should be there in the particular region. Careful study of their contrasting characteristics will lead the one hand and tumours on the other, are polar opposites. Of course, I must remind you that it is quite possible to take a carcinoma situated on or near the surface of the body, for an ulcer, at least in some features. As the similarity may be misleading, we must study more closely the essence of this polarity.

Certain not precisely old but somewhat mediaeval technical terms are misleading and unhelpful in
this respect—and when I use the phrase mediaeval, I refer not to the Middle Ages but to those
times which we have only just passed through. It is not only in the trivial sense of not having been
there before, but they are not “neoplasms” in the sense of sprouting on the actual soil of the
organism, i.e., on its boundary, the skin. But owing to the vehement opposition developing in some
special process of the physical body, as against the etheric, the body of man becomes a tumour
provides an easy passage for all manner of external influences; and thus we should not neglect the
study of the complementary opposite of this whole phenomenon. For this I refer you to the study of
the extra-human world, let us say, to the formation of the mistletoe begin with.
First of all we must observe the precise manner in which the varieties of mistletoe (viscum)
develop on the soil of other plants. But this is not the main factor under consideration. For the
botanist, of course, the parasitism of such plants as mistletoe is the essential point. But for the
study of the inter-relationships of extra-human nature to man, it is far more significant that the
mistletoe as it grows on trees is compelled to follow a different yearly rhythm from that of other
plants; its blossoms have been formed before the trees which are its hosts, begin to put forth their
leaves in spring. Thus the mistletoe is a kind of winter booming plant, protecting itself under the
shelter of alien foliage, from the extremes of the summer sun’s rays, or better, from the light
workings of summer; there is something of an aristocratic attitude about the mistletoe. The sun
must be taken—in the sense of the XI lecture—as being the representative only of the light
workings; but this subject forms a chapter of physics and odes not interest us here; it is
unfortunately impossible to avoid phrases introduced into our language by an incorrect conception
of nature. The whole manner in which the mistletoe attaches itself to other plants in order to grow
and thrive is the essential point: it acquires and appropriates particular forces which may be
described as follows. Its nature is to oppose all the tendencies of the straight course taken by the
organic forces, and to urge towards all that of which straight course taken by the organic forces is
opposed. Let us try to elucidate this by means of a rough sketch, representing an area in the
physical body of man which revolts against the whole access of the etheric forces, so that the latter
are, as it were, dammed up and stopped and thus what appears to be a “neoplasm” is formed; and
the mistletoe counteracts this “pocketing” which has been formed and draws the forces again to
the area which they do not want to enter.
You may corroborate this statement by means of a test which can only take place as occasion
offers. You can study the tendency of the mistletoe against the straight-lined organising forces, by
its effect on the after birth. Mistletoe prevents or delays the emergence of the after birth from the
human body, that is to say, it opposes the straight course of the organic process. And that is its
most characteristic and significant property, to prevent the normal course of organic forces. But quite the same tendency of opposition is to be found in the mistletoe-effect in general.

The counteraction of mistletoe against the etheric body’s refusal to take hold of the physical body may lead one to a certain administration of viscum; it may happen, then, that the physical body is taken hold of too strongly by the etheric body, and convulsions may result. Other cases, on being treated with mistletoe, have the peculiar sensation of falling (vertigo.) And these symptoms are in line with a further pharmaceutical effect of mistletoe, i.e., its stimulation of seminal pollutions. Thus in all its manifestations, e.g., in connection with epilepsy also, mistletoe works, “against the stream” in the organism of man. And this is due, not so much to its parasitism, as to its inherent contrariety: it claims always special indulgencies from nature as a whole. This plant, for instance, will not thrive in the normal course of the seasons, blossoming towards the spring and then bearing its fruit, but during an unusual time, in winter. By so doing, it conserves those forces which counteract the normal course of events. If it were not giving too much offence, one might say that nature had “gone mad” and did everything at the wrong time, in reference to the mistletoe. But this is just what must be made use of, if on the other hand the human organism becomes physically mad, i.e., in formation. Here the need arises to cultivate the understanding of precisely these connections.

Mistletoe provides, beyond question, a means which—when given in potencies—should enable us to dispense with the surgical removal of tumours. The point is only to find out how to treat the plant, in order to arrive at a remedy. The peculiar “madness” of this plant is shown in its method of fertilisation, which depends on transport by birds from one tree to another. The plant would become extinct were it not for this service of the birds. In a curious way, the fertilising elements of the mistletoe choose the path through the birds, and are excreted on another tree trunk or branch, where they “take root” anew. All these peculiarities illuminate the whole formative process of the mistletoe. The task is to blend the glutinous substance of the mistletoe in the right way with the triturating medium, and so increase gradually the ascertained the main formula, we should vary it, specialising according to the requirements of this or that organ; and also bearing in mind the particular tree on which the mistletoe grew; I shall make further suggestions in that matter. Another important point will be to arrive at a co-operation of this glutinous substance with certain metallic substances; this effect can of course be arrived at also by the metallic ingredients of other plants. But the co-operation, for instance, of mistletoe from an apple-tree, with triturated silver salts, could produce something eminently capable of counteracting all cancers in the hypogastric regions.
These things must be brought forward with caution at the present time. The trend of which they are manifestations is correct, beyond question, and based on well-established research in spiritual science. But on the practical side, we are dependent on the actual blending and preparation of the mistletoe substance, and have not yet sufficient knowledge for successful carrying out. Here spiritual science can only work to our full benefit if it is in continuous contact with clinical experience. And this interrelationship of spiritual science and medicine is made very difficult, for the opportunities for clinical observation and the investigations of spiritual science are kept widely apart by our contemporary social institutions. But just this can show that we can only succeed in these matters if and when both lines of procedure co-operate. Thus it is urgently desirable to collect experience in this direction, for it will hardly be possible to convince general public opinion in these matters, unless you can provide at least verification by external reports from clinics, etc. It is not so much an internal necessity to obtain such evidence; but it is an imperative external necessity.

It is quite possible to prove that the therapeutic effect of the mistletoe is really based on the fact just put before you. It will only be necessary to proceed methodically. For, as I have already pointed out, the trunk formations of trees are really practically outgrowths of the proper substance of the earth; they are only little mounds containing still the vegetable element, and from them the other essential parts of all trees sprout forth. Now, suppose a mistletoe grows on the tree trunk, it sends its roots earthward, although it takes root on the tree. Now consider those plants which share the mad “aristocraticism” of mistletoe without sharing its “bohemianism” of living parasitically. One can expect to make similar experiences when testing such plants. This is bound to be so. Examine and test winter flowering plants with reference to their contrariety, their anti-tendency against the normal tendencies of the human organism, including, of course, the normal tendency to disease. We must expect the plants which flower “out of season” to have effects similar to that of the mistletoe. Extend the experiments to *Helleborus niger*, the hellebore, and similar effects will be found. It is, however, necessary to take notice of the contrast, already outlined, between the male and female respectively. *Helleborus niger* will hardly produce any effect—or any visible effect—if administered to women. But on men it will show appreciable influence in the case of tumours, if it is applied in a higher potency arrived at in the way already suggested for mistletoe.

In choosing plants for therapeutic purposes, it is necessary to bear in mind whether they flower in winter or summer, and whether their inherent effects are more due to their tendency to the earth itself than are those of mistletoe. Mistletoe shuns the earth but hellebore likes the earth and is
therefore more in affinity with the male system which is akin to earth itself, whereas the female system of forces, as I have already stated, is more akin to the extra-telluric sphere. These differences must never be underestimated. We must learn to get a certain insight into the processes of nature themselves. This is why I have attempted to characterise with the help of such images as bohemians, aristocrats, madness and so forth: for such concepts are not entirely inadequate in describing the forces in play.

After having formed such concepts one will also find out the characteristic difference between the efficacy of a remedy from outside and one from within. Before considering this difference, we must form certain ideas which will lead us to understand this difference. It will be necessary to study the new forms of disease, already alluded to yesterday, from the therapeutic point of view. One can, e.g., try to expose vegetable carbon to the action of marsh-gas for some time, to immerse it in marsh gas and then when it is sufficiently saturated, to produce the trituration. One will in this way obtain something which is efficacious when prepared as an ointment, especially in combination with other favourable ingredients. The technical method of such a thing has to be discovered. If this is done and talcum suggests itself in this connection, there is no doubt that an ointment compounded on these principles would have most useful properties. It is however, necessary to penetrate such a process. We shall not penetrate it until we have cleared our vision by learning to think on sound lines in the matter of psychiatry, as well.

Believe me, the exponent of spiritual science finds the mere phrase “mental disease” go against the grain; for it is folly simply to use the expression “mental disease”; the spirit is always healthy, and cannot fall sick in the true sense of the term. To talk of mental diseases is sheer nonsense. What happens is that the spirit’s power of expression is disturbed by the bodily organism, as distinct from a disease of the spirit or the soul itself. The manifestations in question are symptoms, and symptoms only.

Now one must sharpen one’s eye for the concrete separate symptoms. Perhaps you will be in a position to see the primary tendency or disposition, and then the further development of, for example, a religious mania: —of course the technical terms here are none of them precise. There is great confusion of terminology in this field, but let us for the moment use an accepted term. As I have said, these manifestations are only symptoms. But let us assume that this condition develops—we must be able to form some picture of how it develops. And, having found this picture, we shall require to keep a sharp look-out for any abnormalities in the formation process of the lung of those individuals who display this symptom of “religious mania.” Note; not anomalies in the process of breathing but in the process of lung formation, in the pulmonary metabolism.
even the current term “brain disease” is not wholly correct; “mental disease” is a wholly false and misleading term, and “brain disease” at least half mistaken; for all phenomena of cerebral degeneration are secondary. The primary elements are never manifested in the upper organic sphere, always in the lower. The primary factors always lie in the organs belonging to the four main groups or systems, the liver, kidneys, heart and lung systems. In the case of an individual inclined to those forms of insanity in which all interest in the external world and active life dies out, and man begins to dwell and follows delusions, it is before all things necessary to obtain precise knowledge of the pulmonary process. This is extremely important.

Again, take such persons as are conspicuous for what may be termed obstinacy, stubbornness, self-righteousness and all the other facets of a certain conceptual rigidity—a blind sticking to a certain system of concepts; in their case we should try to ascertain the state of the liver process. In such cases, there is always a defect in the internal organic chemism. Even what is commonly known as “softening of the brain” is a secondary manifestation. In all the so-called mental diseases, the primary cause lies in the organic system, although this is often very hard to detect. And for just this reason it is so sad to note how ineffective so-called mental and spiritual treatment often proves; so that there is more chance of obtaining a cure in organic diseases through treatment of the mind and spirit, than in the diseases termed “mental.” Yes, we must learn to treat mental diseases with physical remedies. That is a matter of major importance, and the second field in which external medicine will have to let its path be sought and found: the path leading to spiritual science.

The suitable observer in this field will always be the thoroughly trained and competent psychologist. The life of the soul with its immense diversity, with its way of often working by mere indications, is able to reveal very many things and one has to acquire gradually a capacity of observe it. Take one example! Man is so constructed that in respect of his faculties and capacities—including the faculties and capacities based upon the bodily organisation which becomes the implement of the spiritual organisation—he is not all of one piece, not of a single mould. It is absolutely possible for an individual to exhibit equalities which compel us to treat him as mentally inferior, feeble-minded: nevertheless the same person may utter things—which are full of life and wit to the point of genius. That is quite possible. And why? Because of the extreme suggestibility associated with certain types of mental inferiority; a suggestibility open to all the mysterious influences of the environment and reflecting them as a mirror. In the field of pathological-cultural history one can make the most interesting observations. In giving the results one naturally need not mention names; to refrain may be to undermine confidence in the statements, but it is not well to
mention names. Especially in the profession of journalism it happens that mentally inferior people may have success because their mental inferiority enables them to record the opinion of their mental inferiority enables them to record the opinion of their time, rather than to maintain their own restricted view. The opinion of the time is mirrored. For this reason, the writings of mentally inferior journalists are much more interesting than that of strong-minded, independent members of the profession. The former reveal to us much more what mankind thinks than those who form their own views. The result is—it is only an extreme case but it often occurs—amasking of the true nature of the case; one fails to recognise an actual mental inferiority, because one is faced with utterances which may even bear the stamp of genius. In the course of everyday life this does not much matter, for why should not our newspapers be composed by mental weaklings—provided, of course, that their “news” is good! But in more extreme cases, the borderline may easily be crossed and definite morbidity result; and in such cases the healing profession needs an unbiased—a very unbiased—eye for the diagnosis of conditions which come under the classification of psychiatry. Here we cannot always judge from the masks in which the soul’s activity disguises itself; but we must probe for deeper and less obvious symptoms. And error here is the more possible, because it is of prime importance for diagnosis, not only to note whether the individual gives utterance to clever thoughts, but to observe (granted that such be the case) whether there is a tendency to repeat these clever thoughts more often than the context requires. The “how” of expression of thoughts is important. If thoughts are very often reiterated, or on the other hand omitted, so that there is nothing consecutive or continuous, we have symptoms of far greater importance than if the thoughts expressed are either intelligent or stupid. It is possible to be a very intelligent person and yet at the same time stupid: physiologically stupid of course, not pathologically so. It is possible to utter clever ideas, and yet tend to “mental” disease so-called, and even suffer from it. This condition can be perceived sooner by the following symptoms than by any others; firstly the omission of thoughts and secondly their frequent repetition. The individual who suffers from omission of thoughts has always certain tendencies associated with defective function of the liver process. The remaining manifestations stand midway between. These conditions may be studied from life itself. Take such substances as have already established themselves as either foodstuffs or luxuries, but not, as yet, as therapeutic remedies in the accepted sense of the term. Amongst them I have already often had occasion to mention coffee—at least in certain circles—as possessing a very definite effect on the whole symptomatic process of the soul. Now it is inadvisable to put one’s trust in such effects—for if they are habitually relied on they merely make the soul inert; but they certainly exist. It is quite possible to supplement a lack of
logic in thought by means of stimulation through coffee: that is to say, a certain amount of coffee will stimulate the organism, so that it yields more forces of logic, than without coffee. Therefore it should be a part of the habits of journalism—which are based on accepted opinions—to absorb large amounts of coffee in order not to have to gnaw their pens too much in order to link up their thoughts! — So much for one part of the phenomenon.

The habit of tea drinking, on the other hand, helps us to avoid linking up pedantically one thought to another like a professor. For certain professions which are now in decline, but in their ancient state were based on wit, there could be given a remedy which would make people extremely witty—not, indeed, internally witty but quite externally through a beverage: namely tea. Just as coffee is the drink for journalists, tea is a remarkably effective drink for diplomats, materially conducing to the habit of making aphoristic remarks and hints, which create the impression of intelligence and wit.

*These matters are needful to know, for if we know how to estimate them aright, and possess the requisite ethical attitude, we recognise that in any ethically responsible life, intelligence and efficiency must be promoted by other means than this or that form of diet.* But in order to recognise certain connections in nature, such knowledge is very important. There are also significant cultural aspects. For example, we may refer to the very small amount of sugar consumed in Russia up to the present time, as contrasted with the lavish consumption of sugar in the Western world of the English-speaking peoples. And we may conclude that (if and when soul development does not neutralise physiological effects) the mental behaviour of men bears the definite imprint of the substances they surrounding world and has a comparatively slight ego-feeling, unless it is artificially supplemented by some theory; these attributes being associated with their small intake of sugar. The Englishman, on the other hand, has a strong feeling of his own Self, and the organic basis for this quality is associated with a large intake of sugar. Nevertheless in such cases, the fact of taking in is less important as an indication, than the urge for a certain diet. For the fact of habitual consumption of any special food develops from the urge, and therefore the urge is the main factor to be remembered.

Finally; if you fully realise that the real origin of the so-called mental or spiritual diseases is to be sought in the lower organic systems of man, you will be made unmistakably aware of interactions within man which cannot be neglected in the practice of pathology of therapeutics. These interactions between what I have termed the lower and the upper man, must be considered always and equally, both in pathology and therapeutics; otherwise it will not be possible to form an opinion of the manner in which external influences will affect the patient. For instance: there is a
very great difference between the application of heat or of water to the head, or to the feet respectively. But we can find no fundamental principle here, unless we are aware of the great differences of function in the two bodily spheres of man; the upper and the lower. For this reason, we will now proceed to discuss external influences affecting man, so far as is possible within the scope of these lectures.

*See diagram 24.
†See diagram 24.
*In German: Geisteskrankheit, spiritual disease.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE XIV

I have carefully considered for some time whether or not to include today’s chapter in this lecture-series, for its subject matter can only be presented in outline. But I have decided to include it, even if only to prove once more how greatly such things may be misunderstood. For on the one side, some people have long endeavoured to prove that Anthroposophy and its doctrines are muddled nonsense. Recently, however, it appears to have dawned on some other people that this opinion can no longer be held, but that Anthroposophy appears to correspond with the results of additional research into the ancient mysteries. So the attack is now from the other side: I am represented as a betrayer of the mysteries. Thus people can always find a possibility of accusation and attack, whether on one score or the other. If they can no longer state that these things are false they can at least maintain that it is extremely wrong to say them.

I must first of all repeat that the exclusively physical study of man only surveys a part and a comparatively small part of human nature. This is for the simple reason that man contains the etheric body, the astral body and the ego, which are constantly working upon and moulding the physical organism, yet entirely inaccessible to external physical judgment—I use this term with intention and reference to what follows. At the same time it is not impossible for the human being to educate himself and evolve (granting steadfast effort) to the point of acquiring and assimilating a certain degree of clairvoyance into the operation of intellect and judgment. This will not yet mean the attainment of a proper clairvoyance associated with definite visual images, but it will be possible to attain a type of judgment capable of strong and reliable coincidence with the results of clairvoyance.

Now consider this. Let us begin with the ego—as it were the opposite extreme from the physical. The ego works upon the other human vehicles, and at the present stage of evolution its main sphere of action is on the physical body. In mankind today the ego has as yet comparatively little capacity for governing the etheric body. During childhood it has such power strongly but unconsciously. This ceases later on. Only in those who retain in later life a vivid imagination or fantasy, is there a strong ego-influence over the etheric body. In general, however, in all persons who develop their intelligence as distinct from their imagination and become dry intellectualists, there is a strong ego-influence over the physical body and only a slight influence over the etheric. If you try to visualise this influence over the physical body, you will not need to go much further in order to picture in your minds as the work of the ego an intricate framework extending
throughout the bodily organism; a delicate, weblike scaffolding. This scaffolding in the physical body, like a kind of phantom of man, is always present. We human beings carry with us through life, a framework imprinted into us through our ego-organisation; its structure is most delicate, and indeed it is the forces of the etheric boy that insert it into the physical. But in the course of our lives, we gradually forfeit the power of consciously contributing to this structure. Only in people with creative imagination we find a half-conscious, dreamlike remnant of such power.

As you will have easily conceived, this weblike framework which the ego “timbers” into the organism of man is actually in some sense a “foreign body.” And three is a constant tendency to resist it. Every night during sleep, the human organism seeks to tear down this structure. Although we remain unaware of it in everyday waking life, do not let us forget this tendency. For this continuous tendency on the part of the ego-framework to break up, to fall to pieces in the organism, is the secret and permanent source of inflammatory conditions.

The concept of this kind of phantom-structure inserted by the ego into the human organism is of great importance, as is the realisation of the constant organic defensive reaction against it as a “foreign body,” and its continuous tendency to break up within the physical organisation. You will arrive at a visualisation which helps your judgment if you study psycho-physiologically the organisation of the human eyes. For all that takes place as between the eye itself and the external world, that is to say, between the soul and the external world by means of the eye, represents par excellence the erecting of this scaffold. There is an intimate interaction between the ego-framework proper and the results of the interplay of the eye with the world around it. I have often had occasion to study this interaction of eye and ego, in blind-born persons and in those who had lost their sight. Such cases reveal very plainly the mutual reactions of that phantom—normal to most people—which becomes incorporated in the organism by the mere fact of sight, and the other phantom which is the result of the ego’s activity in the organism.

Suppose that an attempt be made to represent all this in graphic form. Through sight, through the visual process, a phantom is incorporated into the organism: and the other ego-structure lies a little deeper within, a little more inward. The latter, more deep-seated structure is so constituted as to be perceptibly tinged with physical forces. It is an almost physical phantom that the ego inserts and erects; a real scaffold, but what the eye transmits is till etheric. And here we come to a striking difference between short-sighted and long-sighted people. In people of short sight, these two frameworks approach one another; the portion coloured white in the diagram moves inwards, closer to the yellow. In long-sighted persons, on the other hand, the white framework moves outwards, away from the yellow. In fact, if you study the organisation of the eye in any human
being you will have the material for a sound judgment of the person’s etheric body; the etheric body which is so like what I have just termed a framework. You cannot better train yourself to divine something of the nature of an individual etheric body, than by attentive study of the organisation of the organ of vision. Having once grasped this, you will find that the rest will be easy. Acquire the habit of observing whether individuals focus their gaze at a distance or near by, and let this impression work on you; and you will cultivate a sensibility to the perception of the etheric body. Call meditation to your aid, and it will no longer be so difficult to ascend from a devoted attention to the effects of the eye-organisation to the contemplation of the etheric body itself.

This will convince you that the process linked with the eye organisation is continuous, and it is the normal form of a process which may appear in an abnormal form. It is normal in the life of everyday, and it has its abnormal counterpart in cases of inflammation, indeed in all inflammatory conditions. So that you are justified in stating that a too vigorous development of this framework (which in the physical body is similar to the etheric) gives rise to inflammations and to all these sequela of the inflammatory states. You can confirm your convictions in this matter by the external use of an animal product, formic acid. The best manner of studying the application of this substance is in its highest possible dilution, e.g., sprinkled in bath water. If the mildest dilution of formic acid is made to work on the human being through bath water, you will cause a consolidation of the ego-scaffold coloured yellow in the Diagram.* This consolidation takes place because by means of the formic acid the ego is forcibly compelled to approach the framework so that it becomes penetrated with the ego. And thus it is possible to counteract the tendency to inflammation, for the framework only inclines to disintegrate in the inflammatory process if it is not properly permeated by the ego and restrained by it; for the ego and this framework belong together. They may be brought together by the use of bath fluid, but in extremely high dilution—for this stimulates the peculiar properties of formic acid.

A certain amount of attention to symptomatology is necessary, if you wish to enter into these matters. For instance: observe carefully in treating inflammatory conditions, whether or not they appear in persons with a concurrent tendency to obesity. For it is only in such cases, where you find both sets of symptoms, the tendency to inflammations and also to adipose deposits, that any real benefit can accrue from the external formic acid treatment just described. You will always attain extremely good results, if you have sound reason to believe in the disintegration of the ego-framework—which may be deduced from other symptoms, to be described presently—and if there is a simultaneous tendency to excessive fat.
For spiritual Science is aware of something that shocks and offends contemporary mankind in its simple enunciation. It knows that what has to happen in the human organism, in order that the eyes shall be formed, and formed in the manner indispensable to human evolution—of course in the long run of this evolutionary history—is really a permanent process of inflammation, which is continually transferred into the normal and does not break out. Think of the processes inherent in inflammations, think of them held up, slowed down, and telescoped together, so to speak, and you will have before you the formative process of the human eye in the human organism. You are even able to obtain an idea of individual tendency to inflammatory conditions, or the reverse, by looking at the person’s eyes. It is possible to see this if one trains one’s judgment. Indeed the experiences we may meet with regard to human sight are closely linked with the observation of the etheric body of mankind. In referring to the existence of the etheric body and its conscious perception, we must distinguish which leads to genuine clairvoyance, by way of meditation. And there is an educative process working from outside. If we take the trouble to see and estimate the processes of nature aright, we shall acquire a visualisation of these thing which is based on judgment. The actual organs of clairvoyance must be developed from within; but judgment is developed in contact with the world outside ourselves. If we develop the finer shades of judgment in the external world, this highly evolved judgment will come towards that more intimate process which passes outwards from within, in meditation.

Perhaps some of you will ask—and quite justifiably ask—“Well, but cannot all these manifestations and reactions be observed in the animal world? “My friends, the fact is simply that the things that concern man cannot be found through the study of animals. I have often stressed this difference in public lectures, and should like to emphasise it still more here. People are in the habit of thinking: an eye is an eye, an organ is an organ, lungs are lungs, a liver is a liver, and so forth. But that is not so; the eye in man is the organ which also exists in the animal world as eye, but with a modification: it is changed by the fact that in man the ego has been incorporated. The same is the case with all other organs. And for the occurrences within the organs, especially in cases of disease, the permeation by the ego is of much greater importance than what happens in the animal’s organs, where there is no such permeation. This essential difference is still far too little regarded and men persist in off-hand pronouncements of this sort: “here I have a knife; well, a knife’s a knife, isn’t it? One knife is the same as another, so both, being knives, must have the same origin.” But suppose that one of these “identical” knives is a table knife, the other a razor. In that case the simple proposition that “a knife’s a knife” becomes untenable. It is making the same mistake to explain the human eye and the animal eye by the same methods and terms. It is simply
nonsense to seek for the explanation of anything in its mere external aspect; moreover such an
approach is entirely barren as a foundation for study. Study founded on animal “material” simply
hinders the adequate study of certain conditions in mankind; for it is only possible to form a just
estimate of the dissimilarity here, by realising that in man it is precisely the peripheral organs
which are the most permeated by the ego and moulded by it.

In a completely different way is the human ear formed. It is possible to train oneself to a
discriminative grasp of the human ear, just as in the case of the eye. And in this manner we then
approach the clairvoyant apprehension of the etheric body. We can train ourselves to understand
the fact that the ear is incorporated into man as it is in animals, but that its structure is permeated
by the human ego. If with this faculty we study the formation of the ear we shall find that it is
connected with a process in the deeper interior of the human organism, in the same manner as the
eye formation of the etheric body is connected with some more peripheral process. Thus we arrive
at the insight that the ego is concerned in the formative process of the ear, just as in that of the
eyes. The ego incorporates yet another framework into the organism, differing somewhat from that
already described; and akin to this framework is the whole process lying at the base of the ear
formation. In order to keep these separate frameworks distinct, I will colour the one just mentioned
blue; it lies more inward than the yellow, and it extends less into the limbs, so that if it could be
extracted and revealed to the light of day, it would have only stumps in the place of arms and
legs. Thus we might say that this framework in its formation has remained at the stage of
childhood. It is also much less differentiated towards the head than is the other one. But we shall
find that it corresponds to the basic principle underlying the formative forces of the human ear and
the whole process of hearing. This latter principle I will colour violet in the Diagram.* This
framework has also its specific characteristic in the human organism. It can become abnormal if
the ego works too strongly; i.e., if its activity works too much internally. We have already touched
on the reverse case, when the ego’s activity is too strong in the periphery.

The following suggestions may be of use, in the study of the problem before us. Again take the
external symptoms as a starting point: consider cases where the tendency is to become more or less
thin, and never put on fat. In these cases you see before you human beings in whom the ego works
too strongly internally, and intensifies this latter framework. This framework, however, has a
different tendency from the other one: the tendency to internal exuberance. The first framework
inclines to disintegrate or to splinter itself; the last to exuberate internally.

The treatment of this scaffold can proceed on two lines. Firstly, it can be so developed that
exuberance does not ensue, because the ego as it were, shimmers out of it. For both exuberance
and disintegration of the scaffolds always arise from the inadequate permeation by the ego, from its shimmering away from it. If the ego does this and at the same time is strong enough to keep itself at work within the organism, there arise certain consequences for the soul and the body. The consequence for the soul is hypochondria; for the body, constipation and similar phenomena.

This is the one aspect. On the other hand it may be that the ego is too feeble to hold itself together when it glitters away from the scaffold, that it collapses in its essential quality as ego; and not owing to the faults in its physical vehicle, the scaffold, but to its own. Consider how strange this is: the ego is so feeble that its debris as it were become embedded in the organism. And this occurs because individuals of this particular constitution, when they fall asleep, are not able to take with them the whole of what shimmers and glitters away. Thus the debris remains within the body and proliferates as a sort of a soul-like ego. And this type of individual constitution with these exuberations of the soul-like ego, which develop especially during sleep, is one that inclines to tumorous formations. This process is of infinite significance. Persons with tumorous tendencies are those who do not sleep properly, for the reason that remnants of the ego remain active in their bodies after they fall asleep. These remnants and debris are the real excitants of tumours, including malignant growths, and these growths are linked up with the whole complex of symptoms which I have just enumerated. It is a fact that we are faced on the one hand by hypochondria and constipation, and on the other hand, if the organism cannot help itself by making the individual suffer from hypochondria and constipation, it exuberates inwards and the most malignant growths appear. We shall deal with this subject further, but for the moment we are considering merely the general principle.

You can reach the conviction that this is how things stand from a study of the external side, in indications given in a preceding lecture. As I have already remarked, it is possible to deal with the formative tendencies to inflammation by the use of very highly dispersed animal formic acid, in bath water. That is an external application; now try the same substance, suitably diluted, internally, and observe the effects it will have on thin people. It will disperse the tumorous tendencies in thin persons, and counteract the formation of growths.

These matters must be observed macroscopically and they afford striking proof of the need to acquire this macroscopical view. One must learn to have to a comprehensive vision of the whole stature and physique of a man, and the many marks of his individual constitutional type, and combine this with all the phenomena emerging in sickness. Thus we shall acquire also a sense of how to divide the treatment into external and internal respectively. To test and trace the effects of the same substance by the two different routes, will furnish most interesting information. Here
again, spiritual science reveals something extremely enlightening in respect of these two parts of the organism. It knows that all the formative forces of the human ear are at an early stage on the same path of development as those forces which, finally, when they are allowed to go too far lead to the formation of internal tumours.

The fact that we have a human auditory organ, is due to a process which is kept normal because the tumour-forming force has emerged in the right place. The ear is an internal tumour extended into the region of the normal. Just as the evolutionary process of the eye’s formation is akin to the process of inflammation, so that of the ear’s formation is allied to the tumorous. It is indeed a wonderful relationship between disease and health in man; for the processes are the same in both, only in the case of normal health they proceed at the right rate, and in the case of disease at an abnormal rate. If the inflammatory process were abolished in nature, no living creature would be able to see. Living creatures have the power of sight only because the inflammatory process is inserted into the whole of nature. But it has a certain velocity, a definite tempo. If it proceeds at a wrong speed, than the abnormal process of inflammation results. Similarly, the process of tumorous formation has its significance in nature, at the right rate of development. If it were abolished no being in the world would be able to hear. If the rate is wrong, there results all that happens in cases of myoma, carcinoma, sarcoma. We will deal with this later.

Those who are not in a position to find and recognise the healthy counterpart of every morbid process, cannot understand its place within the human organisation. For the human organisation is founded on the fact that certain processes dispersed throughout the periphery of nature become interiorised and centralised in man.

Many things are discussed in our physiological text books: we should fix our attention elsewhere, on subjects whose existence is admitted but whose significance is constantly under-rated. Here is one instance. You are able to observe—quite macroscopically and as it were in a commonplace way—that the epidermis covers the human body, and has various inward folds or pockets; and its continuing membrane lines the parts situated to the interior. This is very important—the reversal of functions, as, e.g., we find it in passing from the cheeks and the external parts of the face, over the edge of the lips to the interior. There indeed one finds, in the external formation of man, the vestige of the process which ought to be traced in detail in the embryological development, where all development really proceeds by means of folding inwards and invaginations. In following up the differences in the reaction of the upper epidermis and the internal mucous membrane to preparations of formic acid, and fully realising the delicate differences in these results, one would reach tremendous results. For all the facts I here set before you are really nothing but
specialisations of the elementary structural principle indicated. The study of these facts will bring before you the whole polar opposition of that external lining (also etherically) of the human organism and that which goes inside and becomes central in the same organisation.

This is of importance in the following. To what corresponds the second phantom indicated in the rough sketch? The blue phantom is that physical framework within the organism, which tends to exuberate unduly. Its normal form is associated with the formation of the ear. Educate yourselves, train yourselves in the study of man so far as to have regard to this ear organisation and especially its interiorisation, and at the same time to the characteristics of the organ of sight. Then remember that the process of sight occurs in the etheric, the process of hearing in the air. This is considerable difference. All that lies comparatively low in the ascending scale of ponderable and imponderable is associated and linked with the more deep-seated organs and functions in the interior of man’s organism. All that is more akin to the etheric and imponderable, is situated towards the surface and periphery.

The outlines coloured violet define nothing less than that which lives in the human astral body. If you train your power of judgment, through the study of the ear, for the observation of man, you get a kind of substitute or preliminary apperception for the clairvoyant vision of the astral body. To learn to observe sight is training for the observation of the etheric body. To learn to observe hearing is training for the observation of the astral body.

The most interesting observations can be made in persons who have been deaf from birth or have lost their sense of hearing; deeper connections of nature are then revealed. I suggest that you should try to study children who have been born deaf: if they had not been born with that defect, they would develop the most terrible tumours even at that early age. We stand here before outlets supplied by nature itself, and they are rooted not only in the single individual organisation between birth and death; but they reach out into and must be understood from the repeated earth lives in which the compensation is brought about. If we follow up these phenomena beyond a certain point, we shall arrive at some apprehension of repeated lives on earth.

If you attempt to stimulate the peripheral areas in man, you will reinforce what has been dealt with in explaining the relationship of the ego to its framework. If you find it necessary to reinforce the human ego, there is a choice of methods; therapeutic or educational. Wherever it is possible to observe a tendency to inflammation, you will find that it will be necessary to re-invigorate the ego’s activity in the individual. If this be done, the ego will insert itself in the proper way into its phantom, its framework, for this framework will not disintegrate where the ego adequately takes hold of it.
An appreciable reinforcement and stimulus to this activity of the ego may be obtained, e.g., by baths containing a very finely distributed solution of rosemary—that is, of the juices extracted from the leaves of the rosemary. This solution stimulates the periphery to such a degree that the ego can act and function better in that which approaches man through the finely distributed rosemary juice. The results are quite remarkable.

Now let us consider the human eye, and its specific insertion into the human organism. The process of sight depends on the power of the human ego to penetrate this isolated part in our organism. There is very little of the animal process in the eye, the sense of sight depends on the fact that man, with his soul and spirit nature, penetrates a region which has ceased to be animal; so that man can identify himself with the external world, not only with his internal processes. If you identify yourself with a muscle, you identify yourselves from inside, with the formative process of man. But if you identify yourself with the eyes, you really identify yourself with the external world. For this reason, I have already called this organ a gulf which the external extends into man. A portion of the external world is actually thrust or inserted like a gulf into our organism, and it is a serious mistake of our current sensory physiology to neglect such facts, thereby engendering those foolish fairy stories of “subjectivity” and so forth. For it is the fashion today to ignore the fact that “objectivity” is intruded upon us and that within this “objectivity” we share in a part of the processes of the external world. For the last century and a half, every sort of sensory physiology has been founded upon subjectivity because there has been an inkling of the entry of the external world into these organic gulfs, by which we participate, through our senses, in the processes outside ourselves. To understand this rightly means also to understand the action of some foreign substance in this fine dispersal.

Take the human skin, and its pores and all the processes linked with the pores. *Sprinkle very mild dilutions of rosemary juice in a bath, immerse the patient in it and you will not be surprised to know that a sensory interaction is set in train between the skin and the minute drops of the rosemary juice. Through this stimulation, an effect is produced upon the sensory process. This stimulation of the sensory process works on the human ego and it becomes more closely inserted into its framework. A further benefit may accrue from the same method, if it is used in time and not postponed till too late. If the skin of the head is exposed to the stimulation of diluted rosemary juice, you may be able to arrest the peripheral process of loss of hair. Only, of course, it must be applied in the correct manner. Well, there again you have something active on the surface and periphery of the human organism.

Let us suppose now, that the collaboration of the ego with the human organisation suffers a
rupture from the outside world. The ego is, of course, not only a point, but a point active around itself; and this working abroad signifies the formative force of the whole human organisation; the ego-organising force spreads throughout the human organisation, permeating it throughout. Let us suppose that an external injury is inflicted on some area, interrupting this mutual action of ego and human organisation; in such cases it will be necessary to attract to this place something springing from the astral organisation (which stands a step below the ego-organisation); something which, working from out of the astral organisation, may so permeate the human organism as to enable the ego to develop its curative forces at the seat of the external injury. The astral body as I have indicated lies nearer the centre of the total organism. Call it to your aid; not this time by means of immersion in any bath, but by a compress of arnica in woollen cloths—a proper arnica compress. The application of arnica compresses to any sprain or dislocation or similar lesion—wherever the injury may have been inflicted—which impairs the efficiency of the ego’s function, summons the astral body from inside; calls to it to come to the aid of the ego, and has a compensating effect on the peripheral area.

In these phenomena we have a standard for comparison of the different substances available in the external world. They may have a great tendency towards expansion, and thus be of benefit to the peripheral regions, if administered in baths, for the support of the ego’s action. Or again, they may belong to the group which includes especially arnica and are thus indicated when we wish to summon the astral body and draw on its power for the indirect support of the ego.

It is impossible to understand the operation of such substances except as summoners of help from the ego and astral body. To recognise this principle must be indeed fundamental for a theory of therapeutics, both for internal and external treatment.

- *See diagram 25. Yellow portion and white portion.
- *See diagram 25.
- *See diagram 25.
- *See diagram 25.
- *See diagram 25.
- *See diagram 26.
- *See diagram 25.
SPIRITUAL SCIENCE AND MEDICINE
LECTURE XV

MY STARTING-POINT today will be a comment made to me from a very competent quarter, to the effect that the present course of lectures are among the most difficult to comprehend of all lectures presenting the anthroposophical point of view. And within certain limits this must certainly be admitted; at the same time, our critics must allow that this can hardly be otherwise. The undeniable accuracy of this criticism should teach us a very great deal. Take an illustrative case, or rather two cases, one of everyday occurrence, the other more remote from the experience of contemporary civilisation. The first case is the following: our contemporary critics are certainly entitled to complain that our considerations here set out are difficult to understand; but the blackbird does not find them difficult—but easy and a matter of course. And this bird gives the most practical proof of its easy understanding. For the blackbird is not exactly an ascetic and therefore it occasionally devours garden spiders. And when feelings of discomfort begin—for the discomfort is soon considerable in such circumstances—and a black-henbane plant is near at hand, the bird is saved from a painful death by its won protective everyday occurrence which furnishes all illustration.

And the more remote instance has substantial similarity with the case of the blackbird and henbane. Mankind must have developed certain protective and remedial instincts at a very primitive epoch, and these instincts must have supplied some of the contents which were more or less concentrated in the Hippocratic School of Medicine. Let us consider in the light of the criticism quoted at the beginning of this chapter, the wisdom of the blackbird—or of other birds, who act in the same manner under similar circumstances. What really happens if a blackbird devours a spider? The spider is in its whole organisation very much interwoven with certain cosmic interactions outside the earth; the creature’s bodily structure, the shape of its limbs and characteristic markings are due to this involvement in extra-telluric processes, so that—if I may so express the facts—the spider has much planetary life: yes, extra-telluric planetary life the garden spider bears within him. Now the bird has not attained such a degree of kinship and sharing of planetary experience; but has removed its share more to the interior of its organism. When the bird swallows the spider, the internal planetary forces begin to stir. These planetary forces which still have the urge towards assuming shape tend to permeate the body of the bird which has to struggle against them. For from the moment of devouring the spider, the blackbird in its inner tendencies becomes a replica of extra-telluric life. Therefore the bird has recourse to the
appropriate medicinal plant, which has become similar to the terrestrial sphere, as contrasted with
the planetary in two respects; both by its growing upwards form the soil and by its retention of a
substance which it cannot wholly work up under the planetary influence but stores up as a
poison. The bird seeks help from the henbane. And why? Because in the very moment that the
poison begins to work, the working calls into activity the defensive and protective instinct; the
instinctive awareness of injury passes over into the instinct of defence. And so, in this
phenomenon we have a very plastically evolved development of what we ourselves do, if a fly
settles on our eyelid and we instantaneously close our eye and brush it off with our hand, by a
simple reflex action.

We may learn a very great deal from these instinctive action of animals and plants. Their
observation will help to cure us of another error; namely the conviction that everything deserving
the name of intelligence or reason has its seat in the skull only. Intelligence and reason hover
everywhere, so to speak, for the bird’s instinct for injury and self-protection affords a quite
intelligent behaviour. External reason and external intelligence are at work behaviour. External
reason and external intelligence are at work in such a case; while we human beings have simply
the gift of sharing in this working of the external powers. We share in it, we do not contain it
within ourselves. To say we do so is nonsense, but we participate in it. The bird does not yet
participate in it in such a way as to appropriate the instincts for injury or in such a way as to
appropriate the instincts for injury or protection in a special portion of the body, namely the
brain; birds’ understanding operates more through their pulmonary system than ours—for
mankind understands through the head system, and the defensive instinct leads the bird through
the pulmonary system to the henbane or Hyoscyamus, because the creature thinks less in its
periphery than at the centre of its being. Mankind has reft the power of thought away from lungs
and the rhythmic system. Later on perhaps we may consider our human instruments of thought in
more detail. But it is beyond question that we no longer think so centrally—that is with heart,
lungs and so forth, in unison with the cosmos, as birds still think. These are aptitudes that we
must re-acquire. And if you ask: Who has expelled the last vestige of those instincts which link
us to the whole of nature? The reply must be: the education given us at connected with them are
eminently suited to uproot the living together of man with the totality of nature. They act in a one-
side manner, promoting a refined intellectuality on the one side, and a refined sexuality on the
other. The force which was in existence centrally in primeval mankind, is driven apart in modern
man towards these two polar opposites.

To find the way back to a right and sound understanding of the world will be the criterion as to
whether we in our pursuit of science become sound again. With such as sound pursuit of science
many a thing will have to be studied which at present alas is studied only with unsound methods
of pursuit.

Let us now turn to the possibility referred to yesterday of studying man in such a way that we
get some hint of the curative process. In archaic times this was a highly developed instinct. When
primitive man saw anything abnormal in man he was at the same time led to the healing
process. Modern mankind has lost these capacities, and therefore only very rarely reaches by
intuition what ancient mankind reached instinctively. But that is the course of evolution, from
instinct through intellectualism to intuition. And both physiology and medicine are among the
subjects most grievously affected by a development on exclusively intellectualist lines; in the
atmosphere of intellectualism these can thrive least of all. Take a concrete example, that of a
sufferer from diabetes. What does he represent in his diseased development? We can only judge
these cases aright, if we know that they arise from a weak ego, an ego-organisation insufficiently
strong for the dominance of the process of sugar formation. It is a matter of correctly interpreting
the phenomena. It would be wholly wrong to suppose that the passage of sugar out of the
organism indicates too strong an ego. It is just the contrary, it means that the ego does not take
adequate part in penetrating the organism with the necessary supply of sugar. Such is the essence
of the diabetic disturbance. And therewith is associated all that can promote diabetes. We may
perceive initial symptoms, so to speak, of this complaint, in those who eat too much sweet food,
and then drink alcohol. But that is only an initial “touch” which may pass off and only serves to
show that in such cases the ego is weakened and its power to control the necessary natural process
which regulates the excretion of sugar, is impaired. Furthermore, we are led to consider all the
elements contributing to the diabetic tendency, and we are confronted by a concept that has hardly
appeared as yet in these discussions, though often in the questions sent up to me, and that will
occupy more of our time in the latter half of this course. For all matters raised in question papers
will receive attention, but the ground has to be prepared. I refer particularly to the concept of
hereditary affliction, which plays a prominent role in diabetic cases.

And let me say at once that an hereditary affliction is especially effective in the case of a feeble
ego. We can always trace a connection between a feeble ego. We can always trace a connection
between a feeble ego—or let us say an ego not adequately in control of all its complexes of
force—and the liability to suffer from hereditary taints. For if we all had an equal liability to
suffer in this direction—well we should all be perceptibly tainted with morbid inheritance. The
fact that we do not all do so, in equal measure, is in the main because an efficient ego-function
helps to make those who enjoy it exempt.

Furthermore, we must not overlook the psychological causes frequently present, whether in a
mild or pronounced form, in cases of diabetes; nor forget that in excitable individuals,
excitements may be connected with the beginning of diabetes. Why does this happen? The ego
is feeble; and because it is feeble it limits its sphere of action more to the periphery of the
organism and develops strong intellectual capacities through the brain. But it is incapable of
penetrating the inner recesses of the organism, especially those regions in which albumen is
treated and transformed, where the vegetable albumen is metamorphosed into animal
albumen. These regions are beyond the range of the ego’s action. But in them there begins and
the more strenuously for the ego’s absence, the activity of the astral body. This astral body is
most vigorously active in the regions where between, so to speak, digestion, blood-formation and
respiration the process of the middle organisation takes place. And the feebleness or apathy of the
ego leaves this “middle process” very much to its own devices, of harmony with the whole man,
and restricted to the central area. The diabetic tendency arises if the ego excluded itself from the
inner organic processes. These internal processes, especially such as involve internal secretion,
are in their turn closely inter-linked with the forming of feelings and emotion. While the ego
seeks its main occupation through the brain, it leaves untended all the secretory activities which
are circulatory and oscillatory. The result is that the patient loses control of certain soul in
influences which manifest themselves in the feeling life. Why do we retain our composure if
something very exciting happens in our neighbourhood? Because we are able to send our reason
into the intestines, and do not remain cerebrally encased, but are in possession of our whole
being. If we only reflect, we cannot do this. If we are active in a onesided intellectualistic fashion
from our brains alone, the interior of man moves in its own way. The patient has then a particular
tendency to excitements provoke their characteristic organic processes. Strictly speaking they
should not produce immediately—i.e., as excitements stirring the feeling life—their organic
counter-processes; but should become permeated with the intellect, tempered by the reason and
only then act on the interior of man.

What is the fundamental cause of such manifestations? Nothing less than a slackness of the
ego. In man the ego is akin to the regions farthest of all from the earth, to those forces which
affect man from out of the most “peripheral” region. Indeed all the influences at work in our ego
come to us from very far away. And so we must try to learn something of the processes akin to
our ego, in the extra-human world, so that we may be able to put the ego in an environment which
will teach and enable it to take the part it should in the life outside the earth.
On the earth, the equivalent of that urge by which the extra-telluric sphere causes the ego to work upon its own central organisation—this equivalent exists wherever the extra-telluric forces cause the mineral and plant-bearing earth to produce ethereal oils; or oils in general. This indicates the path to guide us. Just as certainly as the human ego is active in the eye, and makes direct contact with the external world by way of this gulf; with quite equal certainty we must bring the ego into contact with the process of oil formation. This will probably be best effected by preparing minutely dispersed oil in the bath water and treating the patient by means of oil-baths. It is most desirable that tests should be made as to the degree of sub-division of the oil, the frequency of the treatment and so forth. But that is the way by which we can succeed in combating that devastating affliction, diabetes. As you will see, the insight into the external process and its combination with an internal process of the human being, creates a physiology which we must attain our results.

Let me then remind you—after we have gained some more concrete concepts—of the nature of man’s kinship to the environment. Consider once more, the whole earth’s flora; the vegetation that thrusts upwards through the soil, disperses its forces so to speak in the blossom, and re-marshal them in the fruit; and the manifold remarkable variations of this process. Variations such as the possible retention in the foliage of forces which would otherwise pour themselves forth into the seed, how the leaves thus become herbaceous and thick; how the seed husk may perhaps become pulpo by the retention of certain forces at the eleventh hour so to speak—all variations are to be found.

But the process of plant formation is not a process which can be regarded only as a result of the physical action of the earth or of the counteracting forces of light. It goes further than that: just as the plant in very truth contains both the physical and ethereal bodies in itself so also in the upper region where the extra-telluric sphere and the earth sphere meet, there is, connected with that vegetable nature, a cosmic-astral principle. We might express it thus; the plant grows and tends towards a formative animal process which it, however, does not attain. The interior of the earth is so to speak saturated with the formative plant process, but where the atmosphere meets the earth there is also a pervading formative animal process which is not carried to its end, a process which the plant grows towards but fails to reach. This process we may behold in action, weaving as it were above the blossoming vegetation, and we may be aware that it encircles the whole earth. This process is centralised in the animal itself, where it is interiorised. The process which takes place weaving above the flowering centred in the animal itself and is removed into its interior; and the organs which the animal possesses and the plant lacks are effect that is exercised
from without towards the plant.

This formative animal process is to be found in man as well but in man it is situated more towards the centre of the whole physical organisation. It takes place more in the region between digestion, blood-formation and respiration. And in those regions man as far as the human formative process is concerned most resembles the present animal formative process. Consequently this physical internal man has the most kinship with all the life tendencies of the vegetable nature, so that we may rely on being able to influence and treat the region in question, by means of such vegetable life tendencies. Now, however, man has a power and through the interaction between the plant and the astral element which is shared by animals also, but another interaction as well, namely that between the mineral and the “super-astral” which lies yet further beyond the purely astral realm. In fact it is especially characteristic of man in the present phase of earth’s development, to share in the formative process of the mineral. Just as there is a constant transformation of albuminous substance in the animal world, there is an equally continuous process of a more peripheral tendency than the animal transformation of the albuminous process, an interaction in which science at present ignore, between the heavens—so to speak—and the mineral realms. If we require a specific term for this process, let it be derived from the most characteristicism there takes place continually a process of de-salting, a tendency to change salt formation into its opposite; and on this our being man really rests, and above all our human thinking which goes beyond the animal range. As peripheral man—not—be it noted—as central man, for there we resemble the animal formation—but peripherally we fight against salt formation. We oppose salification just as the animal opposes the normal earth formation of vegetable albumen. In this opposition the forces are to be found which for man we must research for in the mineral kingdom itself, in order to cure certain ailment which we cannot get at with mere vegetable remedies. I would even say that to treat human complaints with herbal remedies only, is to regard man too much as an animal. One gives really due honour to man by expecting him to take part in that sterner battle waged in the earth’s environment against the mineralisation of the earth; and one must give him the opportunity to take part with his ego in this struggle.

Whenever silicon is administered, an appeal is made to the dispersive forces within man, and to his power of overcoming this hard mineral element. And we put the ego in a position to participate vigorously in processes which have ceased to take place on the earth, but continue outside the earth where forces rule whose tendency is to disrupt and shatter all the telluric solid substances in the cosmic space. Cosmic space has the peculiarity of dispersal into the most minute particles all that solidifies in the planetary realm. We share but seldom in this disruptive
activity, in the course of everyday life, unless we are mathematically inclined, i.e., are used to live much in mathematical shapes and to think in mathematical forms. For this way of thinking is based on the disruption of mineral substance. On the other hand, individuals with a certain aversion to mathematics, restrict themselves more to a mere de-salification. They are not able to become internal “mechanicians of disruption.” Such is the difference between mathematical and non-mathematical minds. And counteraction of earth’s mineralising process is the groundwork for many therapeutic processes and methods.

Now, these things were included in primitive man’s instinctive reactions of attack and defence. If man in those primitive ages became aware of encroaching weakness of thought, recourse was had to some mineral substance which was eaten or drunk and the disruption and internal dispersal of this mineral substance helped him to restore his faculty of attunement with the extra-telluric forces remote from the earth.

It is possible to follow the processes of external nature to the point of almost tangible proof of the accuracy of such beliefs. They are quite verifiable by observation. Consider for example a tree which is most interesting in this respect; Betula alba, the silver birch, which makes, as it were, a double stand against the normal formative process of the plant. This formative process in its normal course is not shared by Betula alba. It would be so shared if it were possible to combine what takes place in the birch bark with what takes place in the foliage, especially the unfolding foliage of spring, while the leaves are still tinged with brown. Were it possible to mingle these two distinct and differently localised processes, so that the functions of cortex and foliage were blended uniformly throughout, the result would be a magnificent herbaceous plant, with profuse blossoms. The silver birch is as it is, because the processes associated with living albumen formation are carried more into the leaves and concentrated there than is generally the case with plants; and on the other hand the process which consists in the formation of potash salts, is conserved in the bark. In plants which remain herbs, the two processes join so closely that in the root the essence of the potassium salt process is permeated with the formation of albumen. But the silver birch thrusts what the root draws from the soil, outwards into its bark and sends what other plants mingle with the earth’s contribution, into its leaves, after having thrust the earth’s contribution, into its leaves, after having thrust the earth’s contribution into the cortex. Thus the birch prepares itself to affect the human organism in different directions. The bark containing the appropriate potassium salt ingredients, is indicated if a patient is to be guided to de-salification—as for instance in various rashes and skin affections; then the substance pushed downwards into the birch’s bark shoots into the periphery in man and heals the skin affection. On
the other hand, if you take the leaves, with their forces of albumen formation, you can obtain a remedy specially indicated for internal and deep-seated complaints in mankind, and very beneficial in cases of gout and rheumatism. Now suppose we wish to heighten the efficiency of these processes, let us have recourse to the mineral constituents in the structure of the birch. Take birch wood, and prepare from it vegetable carbon—we have, then, ready to hand, powerful remedies for the defects of what is external inside the body, namely the intestines, etc. One must learn to grasp, by the appearance of plants, their effects on the human being. If we contemplate Betula alba from this angle, we may conclude that if we wish to make the tree with all its valuable properties into part of man so as to heal him, we must turn it round so that the forces pouring into the wood and bark should be united with the human skin and periphery, and the parts which the birch turns outwards in foliage should be invaginated into the interior of man. Thus the tree would be not only reversed but turned inside out—so to speak, to complete the picture—in the body of man. From this picture we can read the right application of the healing properties of the birch.

As for plants with very powerfully developed roots, so that the root-forming forces deposit potassium salts and sodium salts, you will in them the tendency to retain the root forces even in the foliage; and this means a tendency to beneficial action in cases of haemorrhage as well as gravel of the kidneys. An example of these effects strongly indicated as of use in haemorrhage as well as gravel of the kidneys. An example of these effects strongly indicated as of use in haemorrhages in kidney troubles and all intermediate conditions, is Capsella bursa pastoris the shepherd’s purse.

Now try to enter into the peculiarities of such a plant as the common scurvy grass, Cochlearia officinalis. It is of interest also as containing sulphuric oils or oils with a high content of sulphur. These sulphuric oils enable the plant to work upon its albumen by virtue of sulphur. Now sulphur is within the mineral kingdom that element that promotes the formative forces of the albuminous process; these are accelerated when too slow, through the addition of the sulphur process. These two processes sum up the essential nature of a plant like scurvy grass or spoon-wort. Because the scurvy grass grows on certain soils and in certain places, and because it is inserted in a certain way into the frame of nature it is doomed to develop albuminous processes at too slow a rate, while by a marvellous natural instinct this retardation is balanced by the formation of oils containing sulphur, which quicken the slack albumen process. Note, however, that an accelerated albuminous process differs from one that runs by its very nature with equal speed; this must be always borne in mind. Of course it is possible to discover albuminous processes quite as rapid as that of the scurvy grass in several other plants. But these have not been
called forth by the inertia being acted upon by the accelerating principle. It is the continuous interaction of inertia and acceleration principles in the growth of the scurvy grass which so adapt this plant for use as a remedy in conditions such as scurvy, etc; for the process characteristic of scurvy is remarkably like that just described.

It is my belief that a personal training which enables us to link up the events in external nature with those inside man will show the way to these extremely significant affinities; and also to an understanding of man which you can acquire in no other way. For in very truth man can only be understood through the comprehension of the extra-human sphere, and this in turn only through the human sphere. One must be able to study both concurrently. And I would beg you not to consider it superfluous to pass on to a matter which should be very useful in our next discussion, namely to the peculiar activities of the spleen in the human organism.

The function of the spleen inclines strongly to the spiritual side. So much so, that I have pointed out in a lecture cycle on “Occult Physiology,” that if the spleen is removed, the etheric body very easily takes its place; therefore the spleen is an organ most easily replaced by its etheric counterpart in man—by the etheric spleen. The spleen is less associated with metabolism as such than are the other organs of the human abdomen. The spleen is associated with the regulation of that function. What exactly is the spleen? In the investigations of spiritual science, the spleen appears as the agent appointed to attune continuously the cruder metabolism to what occurs in a more spiritual or psychological way in man. Like all our organs—some in a greater and some in a greater or lesser degree—the spleen is very much a strong subconscious organ of sense; it reacts in a remarkable measure to the rhythm of human nutrition. Persons who eat at all times and any time—produce in their systems a very different kind of activity from that of persons who leave intervals between their meals. This difference is specially perceptible in children, if they have the nibbling or gobbling habit; for the result is a jerky and irregular action of the spleen. This can be observed also in cases where there is no regular feeding, and then some time after the individual has fallen asleep the spleen comes to comparative repose—of course only to comparative response according to its own nature. The spleen is the sensory organ of the more spiritualised part of man for the rhythms of nutrition; and it tells man in his subconsciously, what counter-agents to employ, in order at least to mitigate the deleterious effect or irregular nutrition. Thus the spleen’s activity is directed less towards the actual metabolic process than towards its rhythmical adjustment; the spleen shares in the rhythm which must necessarily rule as between intake of substance and the rhythm of respiration. For between the rhythm of respiration and the nutritive processes which are not specially adapted to rhythm, there is, as it were,
interpolated an intermediate rhythm, brought about by the spleen. The respiratory rhythm enables man to live within the strict rhythm of the cosmos. But by irregular nutrition he continually deflects this cosmic rhythm. And the spleen mediates and modifies this disharmony.

This fact is verifiable through observation of man. In the light of this fact, I beg you to study the anatomical and physiological material at your disposal. You will find corroboration, down to the most minute detail. In the fact that the splenetic artery is a most directly connected with the aorta, and also in the external relative position of the spleen in the whole organism, you will find morphological testimony to the nutritive relationship, in the particular insertion of the splenetic vein into the whole organism which leads into the portal vein and is thus directly connected with the liver.

Thus, these two systems, one without rhythmic pulsation, the other essentially rhythmic, coordinate and mutually regulate themselves. The spleen’s activity is interpolated between the rhythmic and the metabolic systems. Much of what is due to inadequate or irregular splenetic functions, must be met on the basis of this knowledge of the interactions between the respiratory and metabolic systems or the circulatory and metabolic, as linked together by the spleen. It is indeed in no way strange that in materialistic science the physiology of the spleen has been so much neglected; for materialistic science knows nothing of the threefold human being—the metabolic human being, the circulatory human being and finally, the human being of senses and nerves.

LECTURE XVI

YOU WILL now see the gradual emergence of the subjects on which you were good enough to put questions, in the course of these answers to these inquires. Now, it is my intention to start from the point to which we advanced yesterday, namely from the significance of splenetic functions in the human organism. These functions must be regarded as actually the main factors in regulating the subconscious life of the soul; so it is a misunderstanding of the whole nature of man, to regard the spleen as an organ of minor case with which the spleen’s functions can be taken over by its etheric equivalent, and this for the very reason that it is a highly spiritualised organ; and this for the very reason that it is a highly spiritualised organ; and also because other organs may be called in to help do its work. Nevertheless the activity of the spleen becomes more remarkable, if raised out of the subconscious sphere into some degree of awareness. This brings us to the consideration of a remedial method which has aroused much interest of recent years. It is significant that we arrive at its consideration by way of the spleen. You may convince yourselves
by experiment that mild massage in the region of the spleen regulates and benefits the instinctive activities in mankind. In a certain way, the patient thus treated obtains better instincts for suitable food and sounder and more beneficial organic habits. Note that this method of local massage has strict and close limitations. In the moment that the massage becomes too vigorous it becomes apt to undermine completely the life of instinct. So that we must be most careful to observe the zero point. The gentle massage must not go too far.

Gentle massage of the regions round the spleen, brings something into those regions which is not there as a rule. In a sense, the consciousness of the person massaged is projected as it were into those regions. And very much depends on this displacement of consciousness, this letting it stream in, although it is often difficult to define these delicate workings of our organism in the crude terms of our speech. However strange the statement may appear, there is a powerful interaction between the unconscious activities of reason of which the splenetic functions rather than the spleen itself are the mediators, and the actual conscious functions of the human organism. What precisely are these conscious functions of the human organism? All those processes in the organism whose nature involves that their physical occurrences are accompanied by the higher processes of consciousness, especially by the conceptual processes, are toxic activities in the organism. This must not be overlooked. The organism poisons itself continually precisely through its conceptual activity; and counteracts these toxic conditions continually through the operation of the unconscious will. The centre for these conditions of the unconscious will is the spleen. If we stimulate the spleen and imbue it with a certain awareness, by means of massage, we take action against the powerful toxic effects caused by our higher consciousness. And this massage may be applied not only externally but from within as well. You may dispute the term massage in this connection, but you will understand what I mean. Let us take an individual case, in which we perceive an excessive inner organic activity caused by toxic conditions. The abnormal state of splenetic consciousness can be beneficially affected by the following advice, “Do not confine your intake of food to the chief meals of the day, but rather eat as little as you can at those meals, and take other nourishment in between meals; spread out your consumption of food, so that you eat little at a time but your consumption of food, so that you eat little at a time but frequently, at short intervals.” The abnormal consciousness of the spleen can be influenced in this way. For to eat little and often is essentially an interval massage of the spleen, which considerably alters the activity of that organ. Of course, there is a “but”; all that concerns the organic processes under discussion has its “buts.” In our age of haste and hurry in which almost everyone is caught up in some exhausting external activity, the
spleen and its functions are extraordinarily liable to impairment through this ceaseless round of work. Mankind does not follow the example of certain animals who keep themselves sound and “fit,” by lying down to rest after food, so that their digestive processes are not disturbed by external activity. These animals are really taking care of their spleen. Man does not take care of his spleen, if occupied in some hurried activity at the expense of nervous energy. And therefore the splenetic function in the whole of modern civilised peoples gradually becomes thoroughly abnormal; so that especial significance attaches to its relief and recovery through the sort of remedies I have just indicated.

Such delicate processes as massage of the spleen, whether external or internal, draw attention to the relationship between those organs of mankind which transmit the unconscious experience, and the other human organs which transmit conscious experiences. They illuminate the whole significance of massage. Massage has a certain definite significance and under some circumstances a powerful remedial effect, but above all it influences and regulates rhythm in man. The regulation of human rhythmic processes is the main office of massage. And to massage successfully, one must know the human organism well. You will find the way if you consider the following. Think for a moment of the immense difference between arms and legs in the human frame, as distinct from the animal. The arms of man, which are liberated from the oppression of weight and can move freely, have their astral body far less closely bound to the physical, than in the case of the feet. To the feet the astral body is closely bound. In fact we may say that in the case of the arms, the astral body acts from without and inwards through the skin, enveloping arms and hands and working centripetally. In the legs and feet, the will works through the astral body very strongly in a centrifugal direction, radiating powerfully outwards, from within. Therefore, if massage is applied to the legs and feet in man, the process is essentially different from that of massage applied to the hands and arms. If the arms are treated by massage, the astral element is drawn from outside inwards, and the arms become very much more instruments of the will than they would otherwise be. Through this there is a regulative effect on internal metabolism, especially on that part of the metabolic process taking place between intestine and blood vessels. In short, massage of the upper limbs acts to a great extent on the formation of the blood. If, on the other hand, the feet and legs are massaged the physical element is transmuted rather into something of a conceptual nature and a regulative action follows on the metabolism that is concerned with processes of evacuation and excretion. The extreme complexity of the human organism is most clearly revealed in these indirect and secondary effects of massage, whether starting from the arms and mainly affecting the upbuilding internal processes of
metabolism, or starting from the legs and feet and affecting the disintegrating processes of metabolism. If you investigate rationally, you will indeed find that every bodily region and part has a certain connection with other regions and parts; and that the efficacy of massage depends on an adequate insight into these interrelationships. Massage of the lower body will always be of benefit even to the function of breathing; a circumstance of special interest. And in fact the farther we go from above downwards, we find that the organs above the centre benefit progressively. For example, massage directly below the cardiac religion influences respiration; if we go farther down, the organs of the throat are influenced. It is a reversed process; the farther we descend from the centre, in massage of the trunk, the greater the effect on the upper organs. And, strangely enough, massage treatment of the arms is much helped by massage of the upmost region of the trunk. These facts illustrate the interlocking of the individual regions and limbs of the human body. This interaction of upper and lower organs, which may be quite distant but are nevertheless akin to one another, is especially evident in such ailments as, e.g., migraine.

Migraine or sick headache is nothing but a transference to the head of the digestive activities in the rest of the organism. All conditions of special organic stress, such as the monthly period in women, are apt to influence migraine. When a digestive activity wholly foreign to the head thus takes place, the head nerves are loaded with a burden from which they should be, and normally are, free. If the normal digestive activity, i.e., only the absorption of substance, goes on in the head, then the local nerves are permitted to become sensory and perceptive. They are deprived of this character if there is a disorderly digestive activity in the head, as just indicated. They become, therefore, inwardly sensitive, and their receptivity for processes to which the internal organism should be quite indifferent is the basis of the pain typical of migraine and of its characteristic symptoms. It is easy to understand what the sensations must be, if someone is suddenly compelled to be aware of the interior of his own head, instead of the external environment. And true comprehension of the condition will mean that the best remedy can only be sought in “sleeping it off.” For all other “remedies,” which are applied and which one is sometimes obliged to apply, are actually harmful. Let us suppose you use the popular allopathic preparations; what is achieved is merely the dulling and blunting of the sensitiveness of the over-stimulated nervous apparatus, that is to say, you lower its activity. Take an instance: suppose an attack of migraine occurs just before the sufferer has to appear in public, on the stage; he prefers to inflict some injury on himself rather than to break an engagement; in such circumstances, the blunting and dulling of what should really not be blunted or dulled, can be especially well observed. In such cases it becomes obvious how extremely delicate our human organism is, and how we often
through the pressure exercised by social life, are compelled to offend against the needs of our organism. That is an obvious and important factor which must not be forgotten and one is sometimes compelled to accept a harm, simply arising through the social conditions of the patient, and merely to cure its sequela.

The delicacy and sensitiveness of our bodily organisation become evident also by objective and systematic study of light and colour treatment for disease. This use of light and colour should be more considered in the future than it has been in the past. One must learn to distinguish here, between colour which appeals exclusively to the upper sphere of the human being and light proper which has a more objective tendency and appeals to the whole human being. If we simply take the person into a room lit in a certain way, or even expose a portion of the body to the objective influence of colour or light—we act directly on the human organs. We then have indeed an influence wholly external. But if the “exposure” is made in such a way as to affect consciousness through the sensation of colour—as when instead of irradiation with coloured light, the person is brought into a room draped and furnished throughout in a certain colour—the effect penetrates all the organs adjacent to those of consciousness. This “subjective colour therapy” always works upon the ego; while in “objective colour therapy,” the influence is primarily on the physical system, and through the physical vehicle on the ego, indirectly. Do not raise the objection that it is useless to bring a blind person into the environment of a room furnished in one colour, because the patient can receive no visual impression and the result must be nil. Such is not the case. In such conditions the sensory effects which work under the sensory surface, so to speak, are very powerful. There is a difference to a blind person, according to whether a room is entirely red, or entirely blue. The difference is considerable. Take a blind person into a room with blue wall: the effect is to draw or deflect all functional activity from the head to the rest of the organism. If the same person is taken into a completely red room, the effect is reversed; the organic functions are deflected towards the head. From this it is evident that the main effect lies in the rhythm of changing the colour in the environment. The changes of colour are the main factor rather than the colours themselves. The isolated influence of a blue room or red is less significant than the contrast in reactions, when the individual who has been in a red environment is brought into a blue, or after being surrounded with blue, into a red. This is significant. Suppose we see a patient, and diagnose the need of improving his upper organic sphere by stimulation of the functions of the head; we should take the patient into a blue room and afterwards into a red. If we wish to act indirectly, through the rest of the organism upon the head function, we should take the person out of a red environment into a blue.
In my opinion much importance should be attached to these methods in a not distant future. Colour therapy, not only light-treatment, will soon play a great part. The interplay of conscious and unconscious elements is important in itself, and should be given scope. Through this interplay, we shall also be able to form a sound judgment of the special effects of medicinal substances as administered in baths: there is a great difference according to whether the external application of any substance to the human organism produces the sensations of warmth or cold. If anything, whether compress or bath, acts in a cooling way upon me then the effect is to be ascribed mainly to the substance employed; if a cure follows, it will be due to the substantial remedy employed. But if the application produces a sensation of warmth, e.g., a warm compress, its effects are not due to the substance used, for that is almost a matter of indifference, but to the action of warmth itself; and the action of warmth is identical from whatever quarter it may operate. In applying cold compresses, care should be taken to mix the particular liquid employed, whether water or not, with this or that substance. These substances can be made efficacious, if they are soluble at low temperatures, when used in cold water. On the other hand—with the exception of ethereal substances which are powerfully aromatic and exercise their specific effects even at high temperatures—there will be little specific substantial effect in the case of materials which are easily soluble when in solid form. They do not easily operate even in warm compresses and hot baths. Substances which are phosphoric or sulphuric, as, e.g., sulphur itself, used as accessories to warm baths, exercise their peculiar healing properties most fully.

Such interactions as those I have just cited, must be minutely observed. And in this connection it will be of great service to you to establish a sort of “Primary Phenomena.” This method of establishing a kind of primary phenomena was much in use during the ages when the practice of medicine had its source in the Mysteries. Knowledge was not then expressed theoretically but in primary phenomena, as for instance: “If thou takest into thyself honey or wine, thou dost thereby strengthen from within the forces of the cosmos working into thee from outside.” This might be expressed in other terms: “by doing so thou strengthenest the actual forces of the ego” : — the meaning would be the same. This way of putting things makes them very easy to survey.” But if thou dost rub thy body thoroughly with an oily stuff thou dost weaken thereby the harmful action of the forces of earth” : that is to say, of the forces opposed to the action of the ego, within the organism. And these ancients, these physicians of old, have also said: “If thou findest the right measure between the strengthening by sweetness from within, and the weakening by oil from without, then thou shalt live long.” We might say: “Let the action of oil avert from your organism the harmful influence of earth; and if you are able to do so and not constitutionally too
feeble, let the forces of your ego be strengthened with wine or honey; then you strengthen the forces that lead you to a green old age.” Such are the prescriptions and statements in axiomatic form. The aim was to guide mankind aright through facts, not doctrines. And we must return to this method. For among the multitudinous and various materials of the external world we can find our way far better in the light of primary phenomena than by abstract laws of nature, which always let the student down when he has to approach some concrete case.

Now some of these primary phenomena are most easily enunciated, and I should like to give you some examples; here is one: “Put your feet in water and you will stimulate forces in the lower abdomen, which will promote the formation of blood.” This is one which is full of suggestion. “If you wash your head you stimulate forces in the lower abdomen, which regulate evacuation.” Such rules are illuminating for they embrace law, reality. The human being is there, when I express something of this sort; for the things are of course meaningless unless one is thinking of the human being, and it is essential to keep man in mind in the case of all these things.

These matters are more connected with the spatial and regional interactions of forces in the human organism. There is, however, also an interaction in time which is unmistakably conspicuous in cases where a man has received such mistaken treatment during childhood or early youth, that throughout the whole of life, what should have been developed in childhood and youth, remains lacking, and only that is evolved which should be evolved in the adult. To put it in another way. It is the nature of man that he develops certain forces in early youth which then become formative for the organism. But not everything formed in the youthful organism finds its right use and place in life during the years of youth. We form and build up our bodies in youth, in order to obtain and conserve some things which can only be active and evident in later life. Thus, in childhood certain organs—as I would call them—are built up, which are not meant for use during childhood; but in later life they can no longer be acquired. They are therefore held in reserve, so to speak, for use in adult age. Let us assume that no heed is paid to the fact that until the teeth are cut a child should be educated by imitation, and that after dentition, education and teaching should attach great importance to authority.* If both imitation and authority are thus ignored, the organs which appertain to the adult may be used prematurely. Of course the materialistic attitude of today may deprecate the use of imitation or authority as principles of education. But their significance is great, because of their effects, and they reverberate throughout the organism. It must, however, be understood that the child must live with his whole soul within the act of imitation. Here is an example. Suppose you educate the child in liking and eating some
wholesome food, by accustoming it to copy the adult’s enjoyment of that food: in this manner you
will combine the principle of imitation by action, with the cultivation of an appetite for suitable
food. The imitative act is continued into the organism. The same suggestion holds good with
respect to authority in education. If those organs (they are naturally subtle organisations) which
should normally remain latent till the later age are called into activity during childhood, then the
dreadful Dementia Praecox may result. That is the true origin of Dementia Praecox. And a sound
objective education is a splendid remedial method. We are at present making efforts in this
direction at the Waldorf School, but cannot as yet extend them to an earlier stage of growth before
the sixth or seventh year. But when we are at last in a position to put the whole educational
process at the service of the knowledge that spiritual science offers—on the lines of my
booklet The Education of the Child in the light of Anthroposophy, Dementia Praecox will be on
the way to disappear. For such educational methods will avert the danger of premature and
precocious employment of organs essential to the adult. So much for the general principles of
sound education.

There is also the opposite phenomenon. It consists in this: we also tend to accumulate and
conserve what should only be unfolded as an activity of the organs in youth. Throughout life there
are, to be sure, calls on the organs which are destined to function mainly in childhood and
youth; but this continued activity must become less vigorous, or harm may ensue. Here is the
domain in which owing to different causes such theories as that of psycho-analysis have been able
to confuse the whole of human thinking. Indeed it is true that the most harm in life is not done by
the greatest mistakes, for such great errors can soon be refused, but by conceptions containing a
grain of truth, for this grain of truth is accepted, exaggerated and abused.

What are the facts which support the rise of conceptions on psycho-analytic lines? Because of
the current habits of life today (which are in many respects opposed to nature, and in no way give
than the necessary adaptation to the external environment) ——much that make a deep impression
on the human mind in childhood, is not worked up. Thus there remain in the life of the soul,
factors not adequately embodied by the organism; for all that operates in the soul’s life, however
slightly, has its continuance, or should have it, in some effect on the organism. Our children,
however, receive many impressions so contrary to normal conditions that they remain confined to
the soul; they cannot forthwith transmute themselves into organic impressions. Thus they remain,
as it were, in the soul where they are and as they do not share I the whole development of man,
they remain as isolated impulses of the soul. Had they kept pace with man’s whole organic
development, had they not remained isolated impulses, they would not take possession, at a later
stage, of the organs which are destined only to functions at maturity and which have no longer the
task of turning to account the impressions of youth. Something wrong is thus brought about in the
whole human being. He is obliged to let the soul’s isolated impulses work upon organs which are
no longer fitted for it. There then result the manifestations which may certainly be diagnosed by
means of a psycho-analytic method, wisely employed. Careful interrogatories will bring to light
certain things in the life of the soul which are simply not worked up, and which have a devastating
effect on organs already too old for such working up. But the main thing for consideration is that
by this route it is never possible to effect a cure, but only to diagnose a condition. If we keep to
the purely diagnostic use of psycho-analysis, we are employing a method which has its
justification when used with due discretion. Note well, with due and honourable discretion, so
that there may be no such occurrences as I can testify have happened in some cases and or which
there is corroborative written evidence. Such occurrences, for example, as the employment of
servants and attendants, as spies, to furnish intimate particulars which are then used as bases for
catechising the patients in question. That kind of thing happens sufficiently often to constitute a
grave danger and gross abuse. But apart from this—for after all, in these matters so much depends
on the ethical standard of the persons concerned—we can admit that from the standpoint of
diagnosis, there is some truth in psycho-analysis. But it is impossible to achieve therapeutic
results on the lines laid down by psycho-analysts. And that is again linked up with a characteristic
of the present age.

It is the tragedy of materialism, that it leads directly away from the knowledge of matter; that
it hinders the comprehension of the properties of matter. Materialism is in fact not so detrimental
to the proper recognition of the spiritual as it is to the recognition of the spiritual in matter. The
repudiation of the conception that spiritual activity is everywhere at work in matter, represses so
much that must not be repressed if we are to form a sound conception of our human life. If I am a
“materialist” I cannot possibly ascribe to matter all the characteristics we have discussed in these
studies. For it is ruled out as merely preposterous to ascribe all those qualities to substances which
they in fact possess. That means one is estranged from the knowledge of the material sphere. One
no longer talks of phosphoric manifestations, saline manifestations, and so forth, because “all that
sort of thing” is dismissed out of hand, as nonsense. This loss of the knowledge of spiritual
factors in material substances deprives us of the systematic study of formative processes, and
above all, it means the loss of the perception that every organ of man has actually a twofold
task; one related to an orientation to consciousness, the other, its opposite, to an orientation to the
purely organic process.
The recognition of this fact has been particularly obscured in a matter with which we must now briefly deal: in the study of teeth. Form the materialistic point of view the teeth are more or less regarded as mere chewing implements. But they are more than that. Their double nature is easily apparent, for if they are tested chemically, they appear to be part of our bone system; but onto genetically, they emerge from the skin system. The teeth have a double nature and office, but the second of the two is deeply hidden. Compare, for a moment, a set of human teeth with that of an animal. You will find most conspicuous in the latter what I pointed out in the first of our lessons here, the heavy down-drawn weight, the massiveness characteristic of the whole skeleton, which I pointed out in the case of the ape. In man, on the other hand, the teeth themselves show in a certain way the effect of the vertical line. This is because our teeth are not only implements for chewing, they are also very essential implements of suction; they have a mechanical external action, and also an extremely fine, spiritualised inward sucking action. We must inquire: what is it that the teeth draw into the body by means of this suction? So long as they are able to do so, they suck in fluorine. Our teeth suck in fluorine. They are instruments of suction for that substance. Man needs fluorine in his organism in very minute amounts, and if deprived of its effects—here I must say something which will perhaps shock you—he becomes too clever. He acquires a degree of cleverness which almost destroys him. The fluorine dosage restores the necessary amount of stupidity, the mental dullness, which we need if we are to be human beings. We require constant dosage with fluorine in very small amounts as a protection against excessive cleverness. The premature decay of the teeth, which caused by fluorine action, points to excessive demands on the process of fluorine suction. This indicates that man is stimulated to self-defence against dullness through some agency, with which we shall deal presently, although time forbids detailed treatment. Man as it were disintegrates his teeth so that the fluorine action should not go beyond a certain point and make him dull. The interactions of cause and effect are very subtle here. The teeth become defective in order that the individual may not become too stupid! Such is the intimate connection between what is of benefit to man on the one hand, and what tends to cause harm on the other. Under certain circumstances we have need to the action of fluorine, in order not to become too clever. But we can injure ourselves by excess in this respect, and then our organic activity destroys and decays the teeth.

I beg you to consider these suggestions thoroughly; for they are connected with things of the greatest significance in the human organism.

ON THE foundation of the material of the preceding lecture I must summarise some things calculated to throw light on the whole of what we considered and indeed to make it fruitful. Although all this can only be a preliminary outline, it is well that we are able to give two days to this study. In continuing our yesterday’s subject which referred to the development and retrogression of the teeth I want to put before you some facts which should throw light on man in the state of health and sickness. It is inadvisable to take such explanations on too materialistic lines; for we should really regard such external occurrences, as, for instance, dental decay as the visible symptoms of a certain inner process; this process hides itself from external perception, but has consequences which are externally visible.

You will understand the whole process of dental formation, if viewed in the light of other processes in mankind, which appear quite remote; for instance, the phenomenon with which you are well acquainted but whose correct significance can only be judged in connection with tooth formation. Girls and young women have good teeth—and after their first confinement and childbirth their teeth are defective. This circumstance should help to explain the connection of toothache and defective teeth with the whole bodily constitution. There is another very interesting connection, between dental processes and the tendency to haemorrhoids or piles; this also needs study. A study of these things proves that what has the most mineralising effect in the body of man—for dental formation is our most mineralising process—is also closely associated and interdependence in the human area most distinct from the mouth and teeth. Here is a significant fact with regard to the process of dental formation, which cannot be disputed. The completion of this dental formative process—the external cusp of the tooth which projects from the gums, is a region of the human frame which is given up to the external world as something mineral. Here the substance of the external layer (enamel) merges into the mineral world, nutritive processes are eliminated and a piece of inorganic substance is left. I indicated yesterday that the progressive development of dental structure is perhaps less important than the process of decomposition which accompanies the formation of the teeth throughout life. For on the hand, it must be admitted that at this pole of the organisation at which the extremity of the tooth develops, the internal organisation cannot contribute very much to the formative process. But we must not forget that this internal organisation is closely involved in the destructive process, and therefore the more important and urgent question is how to retard the tendency in man to the destruction of this
process. It would be a complete mistake to believe destruction and decay are purely the result of external injuries. My remarks refer mainly to the period of childhood, in which the formation process takes place from inside towards the surface and is in its preparatory stage. For it prepares itself deep in the interior of the whole organism before the second teeth appear. This formative process of fluorine reaches its culminating point in a stable equilibrium—brought about in the substance on the surface and is, as it were, at rest. But this rest is disturbed by the regressive development of the teeth, which approach gradual decay. This is a subtle process, starting from the tooth and connected with a formative process caused by the fluorine extending throughout the body, and yet continued throughout the whole life of man.

What I have just maintained sets the stage for the whole prophylaxis of the condition. Now I could say something of this sort: a considerable part of what is included in the educational methods of our Waldorf School, besides other things promoting health, is the prevention of early dental decay in those who attend the school. For it is indeed remarkable that just in relation to the peripheral structures and processes very much depends upon the right education in childhood. It is regrettable that we are only able to work upon the child at a time—even at the Waldorf School—when it is somewhat too late for the prophylactic treatment necessary to dental formation. We ought to be able to start this work on younger children. However, as teeth do not appear all at once, but gradually, and the internal process is of longer duration, it is still possible to do something with children from six to seven years of age. Something—but certainly not enough. For it is advisable—as I have already emphasised—to ascertain the exact individual dental type, as soon as the first tooth makes its appearance. Of course it is possible to raise the objection that the dental formation is already prepared and that the crown of the tooth is perfected and only thrusts itself into the light. Yes, that is true, but it is possible to judge the dental formative process from other indications than the teeth themselves. If a child of from four to six years old is clumsy and awkward with arms, hands, legs and feet—or cannot adapt himself to a skilful use of his arms and legs and especially of his hands and feet, we shall find that he is inclined to an abnormal process of dental formation. The behaviour of limbs and extremities reveals the same constitutional type as is shown in the dental formative process. Therefore a great influence is exercised on dental formation if we teach children as early as possible to run with dexterity, with intricate movements of the feet such as a kind of modified hopscotch in which the rear foot is brought with some force against the heel of the front foot, or similar exercises. If this is connected with an acquirement of skill in the fingers it will promote the tooth formation very considerably.
Go into our needlework classes and handicraft classes at the Waldorf School, and you will find the boys knit and crochet as well as the girls, and that they share these lessons together. Even the older boys are enthusiastic knitters. This is not the result of any fad or whim, but happens deliberately in order to make the fingers skilful and supple, in order to permeate the fingers with the soul. And to drive the soul into the fingers means to promote all difference whether we let an indolent child sit about all day long, or make it move and run about; or whether we let a child be awkward and helpless with its hands, or train it to manual skill. Sins of omission in these matters bear fruit later in the early destruction of the teeth; of course sometimes in more pronounced forms, and sometimes in less, for there is great individual diversity, but they are bound to manifest themselves. In fact, the earlier we begin to train and discipline the child, on the lines indicated, the more we shall tend to slowdown and counteract the process of dental decay. Any interference with dental processes is so difficult that we should carefully consider such measures even if they seem to be far-fetched.

Now this question is before me: How is fluorine absorbed into the organism; through the enamel, through the saliva, through the pulp or by the blood channels?

Fluorine in itself is one of the formative processes of man and it is somewhat beside the mark to speculate about the precise manner of its absorption. As a rule, we need only consider the normal nutritive process of everyday, by which substances containing various fluorine compounds are incorporated. Now follow this normal process of nutrition, which distributes fluorine to the periphery in the directions and to the regions where it is to be deposited. It is important to know that fluorine is much more widely distributed than is generally supposed. Much is contained in plants of the most different varieties—that is, comparatively speaking, for very little is required by man. But the process of fluorine formation is present in plants, even when fluorine itself is not chemically demonstrable; we shall refer to this presently in greater detail. Indeed fluorine is always present in water, even in our drinking water, so there is no difficulty in getting at it. It is only a matter of our organism being so constructed as to master and perform the highly complicated process of fluorine absorption. In the customary terminology of medicine, one may say that fluorine is carried to its destination through the blood channels.

Then I come to the inquiry whether the enamel of the teeth still receives nutrition after the teeth have been cut. No, this is not the case, as may appear from what has already been stated. But something else takes place, to which I would now call your attention. It might be expressed as follows: from the standpoint of spiritual research, around the growing teeth there is a remarkable activity of the human etheric body which is freed from the physical organisation or only loosely
attached to it. This activity, which can be quite distinctly observed, forms as it were a constant etheric movement of organising around the jaws. Such a free organisation does not exist in the lower abdominal region; in that area it unites itself most closely with the physical organic activity, and thence arise the phenomena to which I have already referred. Thus, when there is a separation of the etheric body’s activity from the physical organisation, e.g., during pregnancy, immediately at the opposite pole of the organism, pronounced changes in the teeth are brought about. Haemorrhoids are another consequence of separation between the etheric and physical bodies, each “going their own way.” But the fact that in this extremity of the human frame, the etheric body becomes independent implies that at the other pole the etheric body is drawn into the physical organisation, and destructive processes come into operation. For all things which increase organic activities—as for instance in the normal way in pregnancy, and in the abnormal way in diseases—other hand concurrent effects on the dental structure where they work destructively. This is what should be especially noted.

What we do as an interplay between feet and hands is the macroscopic aspect of the fluorine workings. The constitution arising if the fingers and the legs become supple and skilful, is the working of fluorine. This is fluorine—not what the atomistic theorists imagine, but what is made manifest on the surface of the human organism, and is continued and extended inwards. This internal continuance of the process at the periphery is the essence of fluorine working. But if the external fluorine workings are disturbed, then the complexity of the human organism requires us to supplement education with therapeutics. For we not only perceive the result of defective or mistaken education in the condition of the teeth, but also in the child’s being awkward and helpless. In such cases we must bring prophylactic influences upon the organism, and it is very interesting that a regulative action on the preservation of the teeth may be possible—if course if it has not been started too late—by means of an aqueous extract form the husks of horse-chestnuts; that is to say Æsculin extract, in very high dilution and administered by the mouth.

This is again an interesting connection. The juice of the horse-chestnut contains something of the same principle as that which builds up our teeth. There is always some substance out in the macrocosm with an internal organising effect. In Æsculin there is a force which ejects the “chemism” form the substance in which it is active. The chemism is so to speak rendered ineffective. If a beam of light is projected through a dilution of Æsculin, the chemical effect is obliterated. This obliteration is again perceptible if the aqueous dilution of Æsculin is taken internally; but note that it must be a very mild dilution and in a watery medium. Then it becomes evident that this overcoming of the chemism and trend towards pure mineralisation are essentially
the same as the organic process which builds up the teeth. Only the obliteration in the external experiment is permeated still with the organising forces which are inherent in the human organism.

In a similar direction but by another method, w may use the common chlorophyll. The same force that is localised in the husk of the horse-chestnut and some other plants, is also contained in chlorophyll, though in a somewhat different formation. But in order to use it we must try to extract as it were the chlorophyll in ether and use it not by internal dosage, but externally as a salve for the lower part of the body. If we rub the lower abdomen with etherised chlorophyll we shall produce the same effect on the preservation of the teeth, indirectly, through the whole organism, as is produced by the oral administration of Æsculin. These are things which need to be tested and which would certainly make a great impression on the general public if their statistical results could be made available. If the whole pulp of the tooth is “dead” an attempt should be made to adapt the whole organism to the absorption of fluorine. This is no longer a matter of mere dental treatment.

So you see how greatly dental treatment—in so far as dental treatment is still practicable—is related to all growth-forces of the human organism. For what I have explained with reference to Æsculin and chlorophyll leads to the recognition of forces connected with very delicate processes of growth—processes tending towards mineralisation. The fact is that mankind has to pay its higher evolution in the direction of the spirit, with a retrogressive development of the formative teeth process. And phylogenetically the same is true; compared with the process of dental formation in the animals, our human process is one of retrogression. But it is not singular in that respect; this character of retrogression in the formation of the teeth is only one of many others in the organisation of the human head.

With this we have reached forms of thought which may be of great importance for our judgment of the whole process of dental formation. More insight will still be attained when we add some other facts which form a basis for it. I shall therefore include here a section which may not seem immediately to the point, for it will treat of questions of diet which are, however, closely related to our present theme.

Questions of diet are so important because they have social as well as medicinal implications. One may spend endless time in discussing whether the dietetic rules of Mazdaznan or other special schools and creeds, have any justification or significance. But in all the arguments pro and con, and the prescriptions which are given in these schools, we must admit that a person is treated as an unsocial being. But social problems combine with medical. The more we are
compelled or advised to have some extra kind of food, something special to ourselves alone—and not only in matters of food but in things from the external world—the more unsocial we become. The significance of the Last Supper lies in this: not that Christ gave something special to each of His disciples, but that He gave the same to all. The mere possibility of being together with others, as we eat or drink, has a great social value, and all that might tend to repress this healthy natural tendency, should—if I may say so—be treated with caution. If man be left alone in individual isolation, not only as regards conscious processes but also in all organic activities, he develops all manner of appetites, and anti-appetites. Attention to these individual appetites, and anti-appetites need not be given the importance usually bestowed. I am speaking now with reference to the whole constitution. If a man has become able to endure something naturally distasteful to him—that is to say, if an anti-appetite (in the wider sense, speaking of the whole organisation) has been conquered, then that person has gained more for the efficiency of his organisation than the constant avoidance of what is antipathetic. The conquest of something distasteful means the reconstruction of an organ which has been ruined or, in relation to the etheric, is a new organ; and this in no symbolic sense, but in fact. _The organic formative force consists in nothing less than the conquest of antipathies._ To gratify appetites beyond a certain limit, is not to serve and strengthen our organs, but to hypertrophise them and bring about their degeneration. To go too far in yielding to the antipathies of the organism, causes profound damage to the whole organisation. While on the other hand, gradually to accustom a man to that which seems unsuitable to him always strengthens the constitution.

Almost everything we need to know in this division of our subject has been covered over by our modern natural science. For the external principle of the struggle for existence and natural selection is really purely external. Roux has even extended these selection concepts to the strife of the organs within man. But that too is really quite external. Such a principle can only become significant if what happens internally is actually observed and recorded. The strengthening, however, of a human organ, especially an organ in the phylogenetic line, always results from the overcoming of an antipathy. The formation, the actual organic structure, is due to the conquest of antipathies, whereas the continued growth of an organ already in being, is due to indulgence in sympathies.

But there is, of course, a definite limit. Sympathy and antipathy are not only on the tongue and in the eye; but the whole body vibrates through and through with sympathies and antipathies; every organ has its special sympathies and antipathies. An organ can develop antipathy to the very forces that built and formed it at a certain stage. It owes its upbuilding to the
very thing to which it becomes antipathetic, when it is completed. This leads us deeper into the phylogenetic realm; it leads us to take into account how the influence of the external world provokes an antipathetic reaction from inside; there is an internal resistance, a discharge so to speak of antipathy. But by this very reaction the progressive perfection of the organisation is brought about. In the realm of the organism he succeeds best in the struggle for existence who is best able to conquer inner antipathies and to replace them by organs. This conquest is part of the process of further development of the organs.

When we consider this aspect we are offered an important clue for the further estimate of actual dosage of remedies. You see in the process of organ formation itself a continuous oscillation between sympathy and antipathy. The genesis of the bodily constitution is dependent on the production of sympathy and antipathy, and their interplay. Moreover smaller dosages of substances used pharmaceutically have the same relation to highly potentised dosages, as sympathy has to antipathy, in the human organism. High potency has the opposite effect from low potency. That is bound up with the whole organising force. And in a certain sense it is also true that factors with a definite action on the organism in the early periods of life, turn their effect into the opposite in later periods; but that these effects in the organism can be shifted out of place. On this displacement is based on the one hand dementia praecox as I have already stated, and, on the other, the formation of isolated “soul provinces” which at a later period of life wrongfully encroach on the organisation.

These matters will only be viewed aright if our science itself becomes somewhat spiritualised and we reach the stage of ceasing to try to cure so-called mental disorders by way of the spirit and the soul, but ask ourselves: where is the organic disorder or inadequacy, as this or that so-called mental or soul-sickness becomes apparent? And vice versa—however strange this may sound—in sickness of a so-called physical kind there is even more need to examine the conditions of the soul, than in a case of sickness of the soul itself. In the latter class, the phenomena exhibited by the soul help little beyond the diagnosis. We must study these soul phenomena in order to guess where the organic defect can lie. The Ancients have provided for this in their terminology. It was not without purpose that these men of old time connected the picture of that mental disorder hypochondria with a name that sounds wholly materialistic: the bony or cartilaginous character of the abdomen. They would never have sought for the primary cause of the psychological unbalance—even when the hypochondria develops to actual insanity—anywhere except in some sickness of the lower bodily sphere. We must of course progress to the point of being able to regard all so-called material things as spiritual. We suffer severely today, simply because
materialism is the continuation of mediaeval Catholic asceticism in the region of thought. This ascertain despised nature, and sought to attain to spiritual realms by an attitude of condemnation. Those who hold the modern world conception have extracted from the ascetic point of view just what they find convenient, and have no doubt that all the processes of the lower abdomen are crudely material and need not be seriously considered. But the truth is very different: the spirit works in all these things—and we need to know just how the organism together with the spirit acting in some external object or substance—the two spiritual forces collaborate. We must cease to despise nature, and learn again to regard the whole external world as permeated with the spirit. For—is it not an arresting symptom and one of great value for the whole reform of medical thinking that just at the high tide of materialism there has arisen the custom of using hypnotic and other forms of suggestion in treating abnormal conditions in the individual? Things which seem at the opposite pole to materialism have come into favour in the materialistic age, when people had lost the possibility of learn the spiritual aspects of quicksilver, of antimony, of silver and of gold. That is the crux of the matter; the loss of the power to learn about the spirit of material things; and from this loss arises the attempt to treat spiritual ailments as spiritual only, just as in the psycho-analytic doctrines where it is attempted to direct the spirit as such. Sound views must again prevail on the subject of the spiritual attributes of matter.

It is one of the chief services of the nineteenth century to have held alive this acknowledgment of the spiritual permeation of external material things. One of the most important services; for external medicine of the allopathic school has unfortunately tended more and more to believe that one is only concerned with material, i.e., external—material effects and processes in the “extra-human” substance. Today on the one hand, in the diagnosis of so-called physical disorders, attention should be given to the state of the soul, and on the other, i.e., in abnormal soul states, the physical disturbances should be examined. Physical sicknesses should always prompt the inquiry: “what is the temperament of the person in whom they appear:” Suppose we find the sufferer is of hypochondriacal nature, that alone should be an indication for treatment of the lower organic sphere, with materially effective remedies, that is with low potencies. If we find that apart from the illness, the patient is of active mind or “sanguine,” it will be necessary to use high potencies from the outset of treatment. In short, the state of the soul is something that needs study and co-ordination when we consider bodily sickness. The total constitution of the soul is up to a certain point already obvious in the child; dementia praecox will not easily supervene if the child does not exhibit a phlegmatic disposition, that is to say the temperamental tendency appropriate to a much later stage in life, and then only to a limited degree. But still more important is it to
recognise the disposition to inner activity or inner passivity. Only consider—if we work through so-called psychic treatment by means of suggestion we are placing the human being wholly in the sphere of influence of another. We repress his activity. But suppression of activity and of inner initiative gives rise to something even in outer life, which is important for the whole course of life. It appears externally in childhood and reacts on the whole dental condition, in later years as well. We shall deal further with this subject tomorrow.

Now I can come to the conclusion that for myself as an individual it is necessary to avoid certain foodstuffs, and to partake of others; I can choose a certain diet for myself—and it is important to bear this in mind, following what has already been said regarding the choice of food. And that diet can do me much good. But there is a very appreciable difference according to whether I adopt this diet as a result of individual experiment, or simply accept what the doctor prescribes for me. Please do not take offence at this rather blunt statement. For the materialistic approach, it may well seem a matter of indifference, and equally beneficial, whether the diet that suits me has been instinctively chosen by myself, has been worked out experimentally by myself, perhaps at the physician’s suggestion, but with individual initiative, or else has been prescribed for me by a physician. The ultimate result is seen in the fact that the diet prescribed by the physician will be of benefit in the beginning, but will have the disadvantage of leading in old age to mental degeneration more easily than would be the case with an active collaboration in questions of diet; this helps to keep the mind active and mobile into old age—of course, other factors play their part. The interplay of activity and passivity is much impaired in all “treatment by suggestion,” for such treatments imply not only giving up judgment, and doing what another prescribes, but also even the direction of the will itself. The guidances and impact on the will should only be employed in cases where we can assure ourselves that the impairment is not an injury to the person in question, because of other factors; and in fact that it is doing them a greater service to treat them for a while on “suggestive” lines. In general, however, spiritual science finds it necessary to emphasise the healing elements and effects in the material substances, in the atmospheric conditions, and in the movements and functions of the human organism itself; in short in all that cannot be termed spiritual influence proper, but must proceed actively from the consciousness or subconsciousness with the initiative of the patient himself.

All these considerations are so crucial because they are the most of all sinned against in the age of materialism, and because the prevalent attitude has been so infectious as to have extended to pedagogy, where we may already experience the terrible abuse of all manner of hypnotic and suggestive tendencies. Their introduction into pedagogy is of appalling augury; and perhaps one
will only be able to see clearly in this direction by answering the question: What is the effect of such exercises on the human organism as stimulate it to an awakening, instead of lulling into sleep? Just as when man fall asleep, movements are carried out in his imagination which are not allowed by the will, just as the sleeper sinks into repose so far as the external world is concerned, while his consciousness is in motion, so the exact opposite occurs in the case of Eurhythmy. In Eurhythmy the reverse of the sleep condition is brought about; the consciousness awakens more vividly, as compared to its usual state. The hypertrophies of imagination typical of the dream, are dispersed and in their stead a sound and vigorous current of volition is sent through the limbs. The organised will is driven into the limbs. Study the different effects of Eurhythmic vowel forming on the lower and the upper human being respectively, and then again observe the effect of Eurhythmic formation of consonants on the upper and lower man, and you will realise that we may also seek a valuable therapeutic element in Eurhythmy itself.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE XVIII

I THINK that it may after all be necessary to introduce into our medical and biological study what we might term an inquiry into the real origins of pathological conditions. Of late there has been a cumulative tendency to disregard the origins proper, and to fix attention on superficial appearances and events. And with this attention on superficiality is bound up the habit in current medicine and pathology of beginning the description of a disease by stating what bacillus caused the disease by invading the human organism. Of course it is very easy to refute arguments and objections against the invasion of micro-organisms, for the simple reason that we no longer need to point out that these micro-organisms really exist. And since they have different characteristics in different diseases, it is again quite comprehensible that stress is laid on these differences, and specific diseases linked with specific types of micro-organisms.

Now an obvious error enters this whole point of view, namely, that attention is diverted from the primary element. Suppose that in the course of an illness, bacteria appear in considerable numbers in some bodily area. It is only natural that they should cause symptoms such as are the result of any foreign body in the organism, and that from the presence of these bacteria all manner of inflammations arise. But if all these results are ascribed wholly to the bacteria, attention is actually directed only to the action of the bacteria, attention is actually directed only to the activity of these micro-organisms. Attention is thus drawn away from the true origin of the disease, for whenever lower organisms find suitable soil in the human frame for development, that soil has been made suitable by the real primary causes of the disease. And attention must be directed to the region of these primary causes. We must therefore return to the paths of thought we have already traversed and for a short time give them our attention.

Consider the stratum of plant life that covers the earth’s soil, i.e. the entire content of vegetation. We must understand that this flora which grows outwards from the soil towards cosmic space, is not only sent out from the earth, but is also drawn outwards by forces that are in continuous operation, and as essential to the growth of plants as the forces working from the earth itself. There is a constant interaction between the forces passing into the plant from the earth, and those acting on the plant from the cosmos outside the earth. What is the essential factor in this interaction that permeates our whole environment? Should these cosmic forces attain their full expression and take full possession of the plant, and should the planets not ensure that these forces
can withdraw again, then the plant in its growth from the stalk to the blossom and seed would have the perpetual tendency to become animal. There is a tendency towards animalisation. But this tendency, which expresses Cosmic forces passing into the plant, is counteracted and balanced by the opposite tendency towards suppression of the plant-nature in mineralisation.

I would thus emphasise the essential nature of plants: it holds the balance between the tendency to salification, tot he deposit of mineral constituents within the vegetable substance, i.e., to mineralisation; and on the other hand to self-ignition, to animalisation. This is what is perpetually at work in external nature.

This same counteraction, however, goes on, interiorised and centralised, in the human organism itself. But virtue of its lungs the human organism is a genuine earth in miniature, and all the pulmonary processes work downwards in the same manner as the forces of earth work upwards into the plant, passing from the earth to the plant’s organisation. All that comes to meet the inner metabolism of the lungs, from the breathing and heart activity, has the same method of operation as the external cosmic forces.

Now there is a special requirement of the human organism: all that is focused from out of the organism, in the heart’s action, must be held apart from the forces that organise and concentrate themselves in the internal metabolism of the lungs. These tow sets of activities may only interact through the barrier—if I may so express myself—of an etheric or even an astral diaphragm. They must be kept separate from one another. And so w come to the question: Does this diaphragm—and I only use the term in order to give a picture—really exist? Is there such a diaphragm, which prevents the activities of head, throat and lungs from blending with those of abdomen and breast, except through the external rhythm of the breath? Yes—there is such a diaphragm, and it is nothing less than the rhythm of breathing itself. Here you find the attunement of the upper with the lower sphere in man. What is termed rhythmic activity in man, the rhythmic pulsation, whose external physical manifestation is in the rhythm of the breath, continues into the etheric and astral activities and holds apart the telluric forces of the upper human being, which centre in the lung, and the cosmic forces of the lower human being. The latter forces with their expression ultimately in the heart, work upwards from below, just as cosmically they work from the periphery inwards towards the earth’s centre.

Suppose now that this rhythm is disturbed and does not work normally. In that case, the symbolic diaphragm, to which I have referred—which has no physical existence, but which results from the interplay of the rhythms—is not in order. Then there may ensue a process analogous to excessive action of the earth on vegetation. If the earth’s saline action on plants became
excessive, the plants would become too mineral. And the result is that the etheric plant inserted into the lung, that grows out of the lung so to speak—as the physical plant springs from the soil—becomes the cause of pulmonary sclerosis. Thus we find that the trend of the plant towards mineralisation may become excessive even in the organism of man.

And the contrary trend towards animalisation may also exceed normality. When this happens, a region is created in the upper portion of the organism which should not exist. In this region the affected organs are imbedded as in an etheric sphere, and this favours the multiplication of what should not multiply in our organism, namely the minute forms of life between animal and plant. We need not trouble to inquire whence they come. We need only interest ourselves in the factors which create a favourable sphere of life for them. This favourable sphere of life should not exist for them. It should not arise as a specially enclosed sphere; it should permeate and operate throughout the whole organism. If it does so, it sustains the life of the whole organism. If it works only within a small enclosure, it becomes the appropriate medium for the presence and multiplication of little plant-animals, of microscopic forms of life, which can be detected in much—if not in all—that causes illness in man’s upper organic sphere.

So in going back to the rhythmic activity and its disturbances, we must trace the emergence of a special area within the organism, and thus solve the riddle of the working of bacilli in it. But unless we go back to the spiritual causes, we shall not reach the solution of the riddle.

Just the same processes as work in the life of plants—in the external sphere of the earth that is to say—are also at work in the same region on the external life of animals and of man. These forces here at work on animal and man, come from the extra-telluric cosmos, and are met and opposed by forces that come from within. The latter, coming from the interior of the earth, are localised in man in certain organs of the upper bodily sphere; whilst the forces that pour on to the earth from outside are localised in man in organs belonging to the lower bodily sphere. Again, if I may so express myself, a dividing wall must be set up between the two forms of action. The regulation of this separation is normally achieved through the activity of the spleen, and in this connection we again find rhythm active of the spleen, and in this connection we again find rhythm active in the human organism, but a rhythm different from that of respiration. The rhythm of the breath is in short pulsations, and it continues throughout life; it must be in order, if illnesses of the upper sphere—or such diseases as affect that upper sphere only—are not to develop. Bear in mind that there may be illnesses which affect the upper sphere yet have their origins in the lower; for the process of digestion extends both above and below. This we must clearly realise. We cannot picture man divided diagrammatically into compartments, but the various members
interpenetrating one another. At the same time, there must be a barrier between that which works from above as though coming from the earth, and that which works upwards form below, as though from celestial space. For we do indeed send the forces of our lower sphere out against those of upper, and there must be a regulated rhythm for each human individuality between these two sets of forces; a rhythm manifesting in a proper alternation between waking and sleeping. Every time we wake, there is in a certain way the one beat of this rhythm, and every time we sleep, there is the other beat. And this rhythm of waking-sleeping waking-sleeping, is intersected with other minor rhythmic oscillations which are due to the fact that in the waking state, we wake in our upper sphere but sleep in our lower. There is a continuous rhythmic systole interplay, between the upper and lower man, which is only captured so to speak in major rhythms through the alternation of waking and sleeping.

Now suppose that the barrier set up by this rhythm between the upper and lower man is broken through. What happens in such a case? As a general rule, what happens is that the activities of the upper sphere break through into the lower. This means that an etheric breach takes place. The forces that should only act etherically in the upper organic sphere of man penetrate downward into the lower. It is a breaking through of more subtle forces; but by this fact a special area is created in the abdomen, which should not be localised there, but should permeate the whole body. The result is a species of poisoning, a toxicication of the lower abdominal regions. The functions proper to the lower abdominal sphere can no longer be adequately performed under this intrusion of the upper sphere. Moreover, this new sphere creates a favourable condition for lower organisms of the type intermediate between animal and plant. So you may sum up as follows: Through the downward escape of forces from the upper sphere, something is provoked in man that becomes abdominal typhus. The creation of this atmosphere provides, as a by-product, the suitable soil for the typhus bacilli.

In this way you have a clear-cut distinction between what is primary and what is secondary. You will realise that it is necessary to distinguish between the original causes of such illness and the secondary phenomena, which are simply inflammatory and due to the proliferation of legions of intestinal fauna or flora, especially in the smaller intestine. All the physical manifestations in the smaller intestine represent the reaction to this escape of the upper activities of the human organism into the lower activities. These physical manifestations include the working of the bacilli whether vegetable or animal—we need not trouble ourselves with their precise origin—for they could neither vegetate nor “animalise” if an atmosphere had not been suitably prepared. All this is a result, a secondary phenomenon. And the curative effect must be
sought not in the treatment of the secondary manifestations but of the primary. We shall discuss this later, for it is only possible to speak about these things if one is in a position to trace their true causes. This is hardly possible within the boundaries of the official medicine of today; for current medicine excludes a point of view that passes from the material process to that of the spirit. But beneath and behind all material existence, there is spirit. And you will easily envisage the symptomatology of typhus abdominalis if you keep in mind what has just been put before you. Remember that this particular disease is very often accompanied by disturbances of consciousness. The symptoms of pulmonary catarrh appear because the upper sphere is deprived of what emerges in the lower. In the same way, the organs mediating consciousness in the upper human sphere, can no longer work properly if what should be mediator to their activity has broken through into the lower sphere. If you once grasp this primary causation, you will have the whole picture of typhus abdominalis before you.

The whole series of external and apparently independent symptoms, which otherwise are only perceived from without, so to speak, become so clearly evident that at they might almost be painted in their inner relationships. And in certain circumstances, the human consciousness may be so strongly impressed that there arises an urge to objectify prophetically this picture before it portrays itself in the organism. In such cases, a person will feel compelled to depict or symbolise the elements of which his upper organic sphere is deprived, by painting blue spots of colour on the wall, and to represent the elements of which the lower sphere is deprived by spots of red. In the case of an individual with a belief that his vocation is art, as distinct from tailoring or shoemaking, but with little knowledge of the craftsmanship of painting, you may find that if at the same time he is robust enough to repress the constantly arising tendency to diseases of the lower abdomen, these diseased conditions are exteriorised and “thrown off” on wall or canvas, instead of developing internally. The painting of the expressionist school supply examples of this remarkable activity. Examine much of what comes to light in these paintings, in the red and yellow colours; there you can trace the painter’s condition in the lower abdominal sphere. And in the blue and blue-violet parts you can find a clue to his condition in the upper bodily sphere, in the lungs, and all that moves rhythmically upwards towards the head. If you study such things carefully, they will lead you to discover a remarkable harmony between the general type of action of a given individual and his internal organisation. You will be in a position to form a certain intuitive impression of the functional conditions of his body from his way of living and behaving. For as a matter of fact it is wholly erroneous to believe that the soul activity of a man in the external world, through actions and behaviour, is only connected with his nervous system. It
is connected with the whole man, and is an image of the whole man. We can grasp intuitively in children how man’s intellectual part behaves and how it strives towards the later age. We only have to consider, e.g., how somebody may be doomed in later life to cope with all the embarrassments of an arrested growth; and how in childhood he showed plainly that the forces that did not allow him to complete his growth make him clumsy and rough in his behaviour. From the way in which the child behaves, as for instance whether he puts his feet lightly on the ground or strongly, you may form an intuitive picture of the way of its growth. Numerous other manifestations suggest that the whole gesture and behaviour of the individual is nothing else than the interplay of internal organic parts, transferred into movement.

It would indeed seem wise to include these subjects in the medical curriculum. When a medical student is about twenty the most favourable conditions obtain for this kind of knowledge. In the thirties one loses this gift; it becomes harder to enter into these things. But it is possible to educate and train oneself to enter into such intuitive knowledge. In spite of the devastating routine of the intermediate and later stages of our university education, it is possible (by means of a return to the forces active in childhood) to train this insight into the human being. But if organised medical study attached due weight to the more intimate aspects of plastic anatomy and physiology, it would be of immense assistance in the whole treatment of mankind.

So too must those diseases which can appear as epidemics be studied according to their primary causes. To take an example: in all persons with a disposition to disturbance and damage of the head and breast rhythms, which find their crudest expression in the respiratory rhythm, there is a tendency to be much affected by a certain atmospheric and extra-telluric conditions. Others again, in whom the respiratory system is congenitally sound, are able to resist such influences. Of course we must make allowances for additional influences, and other factors of a complicated kind, but this brief and bare outline may make the principle understood.

Let us suppose a winter season, in which there is a powerful influence on the solar activity—and note please, not the operation of light, but the solar action—through the outer planets, Mars, Jupiter and Saturn. A constellation of that description in the winter operates quite differently from the unimpeded action of the Sun, when Mars, Jupiter and Saturn are at a greater distance. In such a winter the atmospheric conditions will differ from the norm; and there will be a remarkable influence (on persons constitutionally so disposed) upon the rhythmical activity between chest and head, of which the most conspicuous is the act of breathing itself. We may state, however, that such cosmic conditions considerably strengthen the inclination to make this rhythm regular in people who have been born from sound conditions, and who are inwardly robust—though their
external appearance may be very slight and delicate. In the case of such persons the respiratory rhythm is very well regulated and so also is the whole rhythm between chest and head. Such a stabilised inner rhythm is not easily disturbed from outside; serious injuries are required to affect it. But on persons with an irregularity of this rhythm, the external influences referred to work very strongly to disturb still more the already disturbed rhythm. Thus everyone with this disposition and resident in those parts of the earth under the special influence of the constellation in question, become liable to the complaints grouped as influenza and grippe. These conditions and factors must be in operation, in order to create favourable soil for such ailments as influenza.

The following example is of a more complex nature. The whole rhythmic activity within man is a unity; although the one continuous rhythm which has its crudest expression in breathing, and that other and wider rhythm determined by the alternation of sleep and waking, form a separate unity in themselves. It may come to pass that owing to a weakness of the upper rhythm (between chest and head), the lower rhythm becomes relatively too pronounced. It follows that the upper process, already enfeebled and out of gear, is made more so by the powerful impact of the lower, which is focused in the splenetic function, as well as in others of which we shall treat later. If this lower rhythm is working too strongly upwards, it causes a tendency to a kind of hypertrophy of the upper digestive process, with all its sequela. Again a most favourable sphere is created for certain lower organisms. There ensue phenomena of inflammation and paralysis in the upper organisation, even rudiments of organic malformations, new organic formations; in short we have the picture of diphtheria. Diphtheria might be termed a sort of break through from below upwards, an inversion of the typhus breaking through from above downwards, and its main origin is as I have described. Of course, in all these conditions, the age of the individual must be taken into account.

You need only keep in mind that during childhood the whole interaction of the upper and lower spheres, and of the rhythmic action that links the two, must differ widely from that of later life; e.g., during childhood there must be much more powerful and pronounced action of the upper human being upon the lower then in maturity. Actually the child “thinks” very much more than does the adult. This may sound strange but it is true; only, the thoughts of the child are not conscious thoughts, they are absorbed into the organism, manifesting in its growth and formation. Especially in the earliest years of life, thinking activity is used mainly for the formative processes of the growing body. Then there comes a stage wherein the body does not need to use up so much of the formative forces, and thus they are, as it were, dammed back, and become the fundamental forces of memory. So memory emerges only when the organism requires
less formative force for itself. The forces which supply the organic foundation of memory are the transformed growth forces and formative forces plastically at work at the beginning of life. Everything is fundamentally based on metamorphosis. That which we observe as a spiritual element, is only the re-spiritualisation of what worked in a more bodily way when the spirit incarnated into the material. So it can be understood that there must be strong defensive forces in the child to cope with particular processes of the lower abdominal sphere. This sphere is the special scene of action for cosmic-celestial forces, that is to say, for extra-terrestrial forces.

Now turn again to the regions outside the earth; let us assume that a special constellation results from the position of Sun and planets. Which gives rise to a powerful reflection in the lower abdominal organs of man. What will be the result? It will be relatively unimportant in adults, for in them the upper and lower organic rhythms have reached a certain equipoise. But in children there will of necessity be a vigorous resistance to the cosmic conditions that seek a mirror and replica in the abdominal parts. So if the cosmic configurations act forcibly on the lower abdominal sphere in the child, the upper bodily sphere must defend itself with all its powers. From the convulsive exertion of powers which should not be used so much in the immature upper organic sphere, Cerebral Meningitis can result—Meningitis cerebro-spinalis epidemica. Here, then, you have an illustrative example of the influx of such diseases into man from extra-human nature. If you keep these origins in the background of your thought, as it were, you will be able to reconstruct the whole clinical picture of meningitis, including the typical rigidity of the muscles in the nape of the neck. For this strain and effort of the upper organic sphere in the child, is bound to lead to inflammatory states of the upper organs in the membranes of the brain and spinal cord, and these acute inflammations provoke the other symptoms typical of meningitis.

We need above all to sharpen our perception for seeing man as a whole both as regards the interactions of human functions with the external world, and even with the extra-terrestrial world. These hinds are not meant to increase the meddling with horoscopes and so on, which I consider the greatest nonsense in the form it takes today; but we should realise the origin of the forces in question; such knowledge is necessary for the healing art. It is not so important to be able to trace this or that condition to the quartile aspect of such and such stars—that knowledge can sometimes help towards a cosmic diagnosis, but the main matter for us is to be able to cure. So tomorrow I propose to pass from our present inquiry to the consideration of substances in external nature that are defensive, i.e., contain defensive powers against the extra-telluric influences pouring into the human organism. It would seem necessary that this distinction
between the upper and lower organic spheres in man should receive recognition in medicine, for I suggest that such recognition would promote greater co-operation within the profession in the interests of human health. Too often, a physician loses interest in man as a whole, if he specialises in one direction. Far be it from me to suggest that physicians should not specialise; the manifold technique evolved in the course of time, necessitates a certain amount of specialisation. But if specialisation has occurred, then, as an equipoise, the socialisation, the co-operation of the specialising experts should steadily increase.

This becomes obvious if we study a condition on which a question has been put: Pyorrhoea alveolaris, the inflammation of the alveolar rim. If pyorrhoea develops, it is not solely owing to some local cause, as many suppose, but it is due to a tendency of the whole organism, a tendency localised only in the mouth and teeth. If it were accepted as part of the professional routine that dentists who observed the onset of this condition were somehow to suggest to physicians that the patient suffering from this particular alveolar inflammation was very probably also liable to diabetes, much good could be done. For that same process—already outlined in these lectures—which manifests as diabetes, is also (while it remains localised in the upper sphere and amenable to treatment) the germ of Pyorrhoea alveolaris. It is far too little realised that the lower sphere can, as it were, seize or invade the upper; and in consequence there is either an impoverishment or an undue augmentation of the one sphere or of the other. If the inflammatory tendency is first manifest in the upper sphere, one form of disease ensues; if first manifest in the lower sphere, there ensues its polar opposite. So very much depends on this knowledge.

It will therefore also be readily understood that the whole etheric body, containing the forces of growth in man, must work differently in childhood and in maturity. In childhood, the etheric body must intervene much more in the physical functions; and must have organs as its direct points of attack, so to say. It is especially necessary in the foetal stage that the etheric body should have these points for direct points for direct working upon the physical; but the need persists in early childhood, when there is not only organic formation, but growth as well, and during growth the plastic activity must be exercised. Hence the need for organs such as the thymus gland, for instance (and even to some extent the thyroid as well); these have their greatest task in childhood, and then enter on a phase of regression, and if too much seized upon by the physical forces, degenerate during the retrogressive phase. During childhood, there must of necessity be a powerful chemism at work within the body, which is replaced, at a later stage, by the workings of warmth. One might say that during the life of the individual, man passes through something of which the prismatic spectrum is a symbol: inasmuch as we observe the more strongly chemical
extremity (blue and violet), and then the luminous portion (green and yellow), finally the other extremity, connected with heat (red). For man experiences constitutional changes of this nature and in this direction.* During childhood, the human being is more dependent on activities working chemically, then passes on to those which act through light, and those acting through warmth. The organs which enable the etheric body to promote the chemism in the physical body, are such gland as the thyroid and thymus. On the activity of these organs (to which in a certain sense the chemism is bound) there also depends the particular individual complexion and skin colouring—that is to say, on the etheric activity behind the physical organs. Among the functional offices of the adrenal glands is the determination of the complexion, and if the adrenals degenerate there must be changes in pigmentation in consequence. As an example you need only consider what is known as Addison’s Disease, arising from degenerative conditions in the adrenal glands; when the whole skin becomes brown. All this strongly indicates a certain chemism in the human organism. It is at work more especially in the foetus, while the action of light has more importance after approximately fourteen years of age. And then appear the activities connected with the life of warmth. Here we have a most significant indication and gauge for the whole course of human life. The period of childhood, and before birth, especially the latter, the foetal stage, represents a certain predominance of the salt-process; early middle life is predominantly a mercurial process and later life and old age, in the relation referred to, represent a kind of sulphur process. This implies that in childhood most attention should be paid to the salt-process, in middle life to the mercurial, and in later life to the sulphuric or phosphoric, and these require regulation. Here again, if you realise this triad of organising chemism—organised light process, organised mercurial process and organised saline process at work in the human organism, you will gain a conception of the manner in which the whole of life works on man, organising him. The manner of life—operates chemically on the child, impinging strongly upon the organism; the even more strong light process has such a great influence on the very young, that it sows a seed that may even manifest in disorders of the soul. In youth, man is most sensitively receptive to all the impressions of the external world. Whether at this stage of life we encounter an external world formed regardless of reason and logic, or one which is formed according to reason and logic, has a great significance for the whole constitution of the soul in later life. We shall go further into this in the next lecture, passing from the pathological aspects just considered, to the therapeutic.

* See diagram 27 (orange).
* See diagram 27.
IN THESE two final lectures I shall try to deal with as many as possible of the questions before us. In a preliminary outline, such as has been offered in this series, the main purpose is to learn more accurately, in the way that can be given by Spiritual Science, the path taken within the human organism by substances external to man, and also their counter-effects. If we have a complete bird’s eye view, as it were, of the way in which any substance operates, we have at the same time an indication of its therapeutic value, and can use our own judgment. To use individual judgment is far better than to keep to prescriptions which say that is for this and the other for that. On this occasion, I shall again start from something apparently remote, in order to reach something very near to us all. Among the written questions put to me, one continually reappears, and it must, of course, be of interest to you all—the question of heredity in general. Both in judging healthy—or at least relatively healthy—persons and the sick, it plays an extremely important part.

In the materialistic biology of the present day this heredity is only studied in a very abstract manner. Certainly it is not studied in such a way as to provide much practical use in life. But if we give it earnest and careful study, w shall find it remarkable (at least to the exoteric student, whereas the esoterist knows it as an obvious law) that all that mankind needs to know about the world and its relations, reveals itself somewhere in an externally visible form. There is always something that reveals externally those secret but—for mankind—most effective forces of nature. And if we investigate heredity we must keep that very specially in mind. For on the other hand all the factors associated with heredity are continually confused and concealed by illusions, so that sound judgment becomes most difficult. If a judgment is formed on a question of heredity, there are always other phenomena to which it does not apply. For indeed, the facts of heredity are wrapped in the most powerful illusions which spring from the character of its law. But the very nature of this law implies that its regularity does not always become obvious. The manifestations of heredity follow a pattern of law, but one very hard to regulate. Just as the horizontal position of the arms of a balance depends on a special law, but is upset by adding to the weight on one side or the other, so that the law is difficult to regulate—so is it also, we may say, with the operation on heredity. It is a similar law to that of the horizontal tendency of the scales; but it is revealed through a wide range of varying manifestations. This is due to the fact that always in heredity two
different elements, male and female, play their parts. The male always transmits what man owes to earthly existence, what he owes to earth-forces; whereas the female organism is more apt to transmit the cosmic influence from beyond the earth. We might express this difference as follows. Earth makes continual demands on the man; the earth organises his forces. Earth is the cause from which the male sexuality originates. On woman the heavens, as it were, make continual demands; they cause her shape, and prevail in all the internal processes of her organisation. This contrast may remind you of something already touched upon in these discussions. Now there follows this result; suppose a female being comes into existence through conception, and develops; it is inclined to become more and more attuned to the extra-terrestrial processes, to be taken up as it were by the heavens. If a male being develops it becomes more and more inclined to be taken hold of by the earth. Thus heavens and earth actually co-operate, for neither acts exclusively nor on one sex alone, but in the female the arm of the scale rises towards the heavens and in the male it inclines to the terrestrial. It is a strict law but is subject to variation, and hence arises the following result. In woman, the organism includes internal tendencies which wage permanent contest with the terrestrial elements. But the strange thing is that this only holds good with regard to her own individual organism, and not in the germs of life and the seed. This contest between cosmic and telluric forces is restricted in woman to all the processes apart from the formation of the ovule, that is to say from the organs which serve the functions of reproduction. Thus woman continually withdraws her organisation from the inherent forces of reproduction; the organs surrounding the reproductive tract are continually kept back. And we might say that there is a tendency to transmit through the male what is contained in the reproductive forces and can therefore be inherited. In woman there is a tendency to withdraw from this heredity—and concurrently in her own oögenous powers there is the stronger tendency of inheritance.

So we must ask how the human community can counteract the destructive forces of heredity? For we know, do we not, that heredity finds no barrier between the spiritual and the physical. For instance, in families subject to mental disorders, these may alternate in successive generations with diabetes; there is thus a metamorphosis which swings to and fro. Therefore it is a matter of immense urgency to find out how to shield mankind from the ravages of heredity. The chief preventative measure is first and foremost to do everything to preserve and improve the health of women; for in that case, the extra-telluric influence is drawn more actively into our earth process, and those processes which work continuously to transmit the harmful influences of heredity through the germ, can be combated through the maternal organism. Thus a community
which gives thought and care to the health of their women, wages war against the harmful influence which springs from the earth-forces in heredity, by means of an appeal to the forces proceeding from outside the earth, and acting as a counterbalance. For these cosmic celestial forces have, as it were, their earthly accumulator solely in the organism of a woman. This is most important, and holds good for all forces of telluric and cosmic origin; it is universally true. It becomes conspicuously evident in the case of haemophiliacs, of so-called “bleeders.” It would be well if there were less vague talk about heredity, and more study where concrete facts point unmistakably to its operation. Observe this as shown among “bleeders.” You will find a striking phenomenon, known to you all, and illustrating what I have just pointed out. In the family descent among haemophiliacs bleeding itself only appears in males, but the transmission of the illness occurs only through females. A woman whose father was a haemophiliac, though she does not exhibit the disease herself, is liable to bequeath it to her male descendants. She gets it because she is part of the family. The males, however, become bleeders. But if these marry women free from haemophiliac descent, the disease is not transmitted.

If you analyse the aforesaid facts, you will find a striking concrete expression of my statements, and indeed the facts of haemophilia are far clearer proofs than all the recent experiments by Weismann, etc., of what happens in heredity. And they are also important for the general judgment of the human bodily organisation; this organisation must be to some degree estimated in the light of that which is apt to influence it.

What is the actual basis of haemophilia? This can in fact be detected by superficial consideration. The blood does not coagulate properly, so that the slightest external scratch or prick may cause the haemophiliac to bleed to death; they may die from attacks of nose bleeding, or the extraction of a tooth, for what would lead to coagulation in other persons does not do so in the case of a haemophiliac. So the blood of these persons must possess some constituent or quality, which counteracts the power of coagulation. If this quality exist in too potent a degree, it is not neutralised by the external forces which begin to work from outside when the blood coagulates. For coagulation of the blood is caused by forces working from outside. If the blood possesses a quality which does not allow these external forces to prevail, there is an excessive tendency to fluidity of the blood.

It is easy to detect that a strong tendency to excessive fluidity is connected with the whole formation of the human ego. And not superficially but deeply, and with that which manifests as “Ideation.” The constitutional tendency to excessive fluidity in the human blood is associated with all that either strengthens or debilitates the human will. And there is a fine historical example
which proves that certain of nature’s secrets are accessible to a proper interpretation. Both history and science are aware of the Engadine case; you will probably know it—the case of those two young girls of the Engadine district who have furnished us with a light on some profound—and medically helpful—aspects of human nature. Both of these young women came of haemophiliac stock, and both formed and kept the steadfast and courageous resolution to refrain from marriage. So they have their place in history as personal champions of the fight against hereditary haemophilia.

Of course we must lay stress on the real core of this case. It is certainly not peculiar to all the girls in haemophiliac families to withdraw in this way from propagation. For such a course of action a strong subjective will must be developed; just the kind of strong subjective will that operates in the ego, and not in the astral body. Such a peculiar will power must have distinguished both of those young women. They must have both had something in their egos, in their power of will, that was connected in some manner with the forces operative in bleeders. If such forces are augmented in a conscious way, this could be done more easily in such cases than in persons who are non-bleeders. A just estimate of this interaction leads us to look into the specific forces and properties of the blood and their interplay with the extra-human world. And in studying those properties of blood that are associated with the conscious will, we can learn something of the general connection between the human will and the forces external to man. Certain of these external forces have a particular inner kinship with the forces of the human will, a kinship based on the course of evolution; for the very last to be separated out in the natural realm, has been all that is connected with the conscious will of mankind. That is the latest precipitation to emerge in the realm of nature.

Let us now study something in external nature which is among the secretions by which nature framed mankind, and which shows by its inherent qualities its association with that formative process of humanity. A substance of that description has long been a subject of study, and there are great difficulties in surveying the results because it is hard to make the forces preserved by atavistic medicine into the seventeenth and eighteenth centuries active again in the intellectual modern man. The substance thus studied was antimony and all that is linked with it. Antimony is a most remarkable substance; it has attracted the most profound attention from all who have had much to so with it, including the legendary Basilius Valentinus. Certain attributes of this substance will reveal the peculiar manner in which it is interwoven with the whole process of nature. Consider, for example, what is perhaps the least of antimony’s attributes: its extraordinary affinity to other metals and other non-metallic substances, especially with sulphur
compounds. Now we have already touched on the specific operation of sulphur in this respect; and antimony tends to appear together with the sulphur compounds of other substances. This inclination of antimony shows how it is interwoven in the nature-process. Yet another quality is even more significant. Whenever possible, it forms sheafs of needle-shaped crystals. That is, its urge is along a straight line, outwards and away from the earth. Wherever antimony collects longitudinally, we behold the lines along which the forces of crystallisation are directed from outer space to the earth. For the formative forces in crystallisation which generally work in more regular patterns, produce in antimony the spear-shaped and sheaflike structures. In this way antimony reveals how it is inserted into the whole of nature. The characteristics of the smelting process also indicate antimony as revealing—or betraying—the forces of crystallisation. By means of the smelting process we can obtain antimony in a delicately fibrous form.

Then there is this further quality: if antimony is exposed to high temperatures it can oxydize—burn in a peculiar manner. The white smoke that forms from it reveals a certain kinship to cold bodies and attaches itself to them. The well-known “flowers” of antimony produce something in which the force of crystallisation as it were discharges itself in contact with other bodies.

And the most remarkable of all antimonial properties, is its peculiar form of resistance to all the forces which I have grouped together as sub-terrestrial, in a certain sense; those forces that play through electricity and magnetism. Suppose that we treat antimony with electrolysis, bring it to the cathode, and touch the antimonial deposit on the cathode with a metal point—the antimony produces tiny explosions. This active resistance of antimony to electric processes—if the substance is given a little stimulus—is most characteristic and distinctive, revealing its real position in the whole process of nature. No other substance reveals its interactions so emphatically.

We can only interpret the lessons so graphically presented by that substance, on the supposition that the forces present in nature are working throughout, are in fact ubiquitous; and that if certain substances show their operation to a marked degree, it is because the forces are especially concentrated in those substances. What operates in antimony is present throughout nature; the antimonising power—if we may coin the term—is everywhere. It has also a regulative action in man, so that in normal conditions human beings draw the antimonising force from the extra-telluric sphere. That is to say, mankind draws form the cosmos what in concentrated form, but turns towards the external, extra-telluric antimonial force. So we must obviously ask: What is the extra-telluric form of this antimonising force?
Speaking in terms of the planets, it is the co-operation of Mercury, Venus and the Moon. If these three do not operate separately but together their action is not specifically of the nature of mercury, copper or silver; but is comparable with the action of antimony in the earth. And of course this can be and must be investigated, by observing and registering the effects of such constellation upon man—constellations, that is to say, in which the three forces of Moon, Mercury and Venus neutralise each other, through the aspects of opposition or square. If all three are in such an aspect of neutralisation, there is the precise interaction which in the case of antimony is laid hold of by the earth. In all the antimony in and on the earth, the same force is exerted from our planet itself, as is exerted by these three planetary bodies upon the earth.

Here it is necessary to warn against a mistake. The constitution of the earth is such as to make it erroneous to refer piecemeal, so to speak, to such substances as antimony. All the antimony on the earth is a unity in the earth’s structure, just as all the earth’s stores of silver or of gold are unities. If you remove separate lumps of antimony from the earth, you are simply extracting or amputating a part of that antimonial body which is incorporated into the earth. We have now attempted to delineate all the perceptible effect of antimonial action: and here, as everywhere in nature, actions meet counteractions. This oscillation between action and reaction, is just what gives rise to bodily form.

Let us then look for those forces which act counter to the antimonial forces. They reveal themselves if we are able to detect that the antimonial forces act on man at the moment in which something presses outwards which is regulated while within him. It is these antimonial forces which are operative in the coagulation of the blood. Wherever the consistency of the bloodstream shows a tendency to coagulate the antimonising force is active. Wherever the blood tends to withdraw from coagulation the counteracting forces are at work. So that haemophiliacs manifest the forces antagonistic to antimony—curiously enough. And these anti-antimonising forces are identical with those for which I should like to coin the term “albuminising forces,” the albumen forming forces, which work in such a health-giving way—that they promote the formation of albumen. For, let us emphasise once more: the forces that hinder coagulation are the albuminising forces.

Thus we arrive at some knowledge of the relationships between the antimonising and albuminising forces in the human organism. In my belief, careful study of the interplay of these two processes would reap very important harvests of knowledge as regards disease and its cure. For what are the processes which form albumen—the albuminising processes? They are
those by virtue of which all that is plastic and formative in nature is incorporated into the human or the animal organism, in order to supply its actual substance. And the antimonising forces are those which, working from the outside, so to speak, take the part of the artist, the sculptor, giving the substance which builds the organs its form.

Thus the antimonial forces have a certain kinship to the internal organising forces of the organs. Please take as a concrete example, one organ, the alimentary canal. It is of curse internally organised. You are able to follow up its inner structure, without considering the purpose it serves, or the manner in which foodstuffs are carried along it and worked upon. It is possible, that is to say, to separate in the abstract the internal processes of the organ and those that take place in working upon the substance introduced from outside. This is an important separation, for the processes are indeed different. In the organ itself, the antimonising force works in man. For man is actually antimony, if we disregard all the ingredients brought into him from the external world. Man himself is antimony. But the internal organic formative force must not be overloaded with the antimonising force in the normal course of life, for the effect would be excessively stimulating, in fact a form of poisoning. But, if strong stimulation is necessary, we may supply antimony to the organism—which normally must not be supplied. The effect of antimony owing to these peculiar properties, varies greatly according as it is applied from within or without. If it is administered from within it is necessary to dilute it so far as to make it absorbed by the upper bodily sphere of man. *If you are thus able to introduce antimony into the upper sphere, it will have an amazing stimulated effect on disturbed organ formations and internal organic processes.* Thus very fine potencies of antimony can be most useful in certain forms of typhus or typhoid.

*In the other case, the effect is somewhat different, and is achieved by using lower potencies of antimony externally, in ointments, salves, and so forth.* There may be occasions when it is desirable to have recourse to higher potencies in external application; but as a general rule, external applications will have their beneficial effect in lower potencies.

This remedial substance is an extremely useful remedy in many different directions. It is at work within the law of polarity just referred to, yet shows constant slight oscillations. Thence arises a rule that should not be disregarded. Antimony should be administered internally by preference, in the treatment of individuals of very strong will power, and externally by preference, in treating persons of weaker will. Here is a first line of differentiation. Antimony represents, within the mineral realm, a substance with an inner kinship to the human will; that is to say, as the human will becomes more conscious, it feels more inclined to call forth the counter-effects to
antimonial action. Human will has a destructive effect on all the forces previously described, constituting the characteristic operation of antimony. On the other hand, all that builds up the human constitution under the influence of thought and especially of unconscious thought—including the still unconscious thought forces at work in the child—all these are supported by the antimonial forces; antimony is, as it were, their ally. Thus if antimony is introduced, by any route, into the human organism and is thus able to exert its own properties, it forms a strong phantom (scaffolding or network) within the body. The internal organic forces are thus stimulated, and there is nothing left for cooperation with the substances brought into the human organism. There follow fits of vomiting and diarrhoea—showing that the effect is confined to the organs, instead of including their surroundings. The same is true in the counteracting process. You will be able to counter injurious effects of antimony in yourself, by the methods instinctively employed by people when they want to keep their own circulatory and rhythmic processes regular. They drink coffee, through which the rhythmic processes are made even and harmonious. Please note that I am stating a fact; I make no recommendation here, for it may be very harmful in other ways to relieve the ego of the task of regulating these human rhythms. If man is not strong enough in his soul to regulate his rhythmic processes, then coffee can bring about a certain harmony. And so in cases of antimonial poisoning coffee acts in some degree as an antidote, restoring the rhythms between the working of the inner organic forces and their surrounding. For there is a regular interplay through rhythm. Indeed the real reason for drinking coffee, is to establish a continuous regulation of rhythm between our internal organs and what is happening in their vicinity to the food-stuffs we have consumed.

From this point we are led to inquire into the albuminising processes. These are reinforced that lie on the other side of the dividing line, where there is no longer the inner organising force of the organs, but where they unfold their external digestive activity. All the mechanical processes of the movement of the intestines, and of the other digestive activities, are closely interwoven with the albuminising forces, which are virtually the formative forces of albumen, i.e., the complementary polar opposites of the antimonising forces.

Now I must once more refer to something already dealt with. That is the instructive object of study—or subject, if you like—the shell formation of the oyster. To a somewhat less degree the same occurs in the calcareous secretion in the egg. What is the key to these phenomena? What precisely is an oyster shell and egg shell? It is a product that the oyster or the essential substance of the egg must eject, because were it retained it would kill them. This shell formation is necessary for the preservation of life. And so, when eating oysters, we consume that life process.
which is manifested externally in the formation of the shells. (I put the facts to you in these simple terms; if I sought to impress current science, more intricate and technical terms would of course be necessary.) In eating the oyster we eat this albuminising process, a process which is the antithesis to the antimonising process. Through its absorption we promote and stimulate all that leads in man to typhoid manifestations. The consumption of oysters is an extraordinarily interesting operation. It activates the formative force, that is the albuminising force, within the human abdomen. This relieves the head, drawing certain forces downwards, so that after eating oysters man feels much less burdened by the forces which tend to work in his head. Oysters empty the head, in a sense. And we have need of developing the albuminising forces which continually, for we cannot let our head continually be charged with formative forces. But the habitual epicure in oysters exaggerates this, and strives at all costs for an empty head. By so doing, he increases the possibility of a downward eruption of certain forces towards the abdomen, as I have already described, that is to say he promotes the tendency in the lower organic sphere to diarrhoea and typhoid. And as you will readily perceive, such a condition demands antimonial treatment. There would be good results in stimulating the forces to which appeal must be made, if the typhitic tendency is to be combated in its innermost stronghold, by administration of antimony externally and internally at the same time; especially rubbing with antimonial ointment and simultaneously taking by the mouth antimony in high potency. These would be mutually regulated and thus react beneficially on the typhitic tendency.

Such are treatments that attempt to realise man within his whole universal surroundings. The significance of such a method is shown if you investigate man’s relationships and reactions to resistance to the direct telluric forces. Plants are able to defend themselves against these direct telluric forces; they store up much of their formative power, for their seasons of blossom and seed. Our most frequent type of plant structure, of which most edible plants are examples, is based on the employment of a definite amount of telluric power for the formation of the plant itself. If, however, the plant has a defensive attitude to these telluric forces, it becomes exposed to the extra-telluric forces, when the final processes of fructification and seed-formation ensue; and thus the plant becomes something with an urge to contemplate the world from the same point of vantage as the higher beings of the realms above the vegetable. The plant shows an urge to perceive. But the plant has no specialised structures for that purpose; it remains a plant, and yet it has the urge to develop something analogous to the formation of the human eye. But no eye can develop, in what is, after all, neither a human nor an animal body but the body of a plant. And so the plant becomes a deadly nightshade, *Atropa Belladonna*. I have tried to show by means of
pictures what takes place in the emergence of the fruit of belladonna. That plant has already in its roots the force culminating in the growth of its black berries, and with this it becomes akin to all that urges in the human organism towards moulding the form and beyond, it urges towards things only possible in the sensory sphere, lifting man out of the world of his organisation into the sphere of the senses. A process of extraordinary interest occurs, if small potentised quantities of belladonna are administered. This is because it bears a striking resemblance to the process of awakening from sleep which is still interwoven with dreams. In such an awakening, interspersed with dreams, the process is within the limits of normality. In awakening, when perception has not yet begun but when sense perception is still inwardly potentised to the permeation of the consciousness with dreams, there is actually always a kind of deadly nightshade activity in there is actually always a kind of deadly nightshade activity in man. And belladonna poisoning consists in the provocation of this same process that occurs when in awakening dreams still hold their sway; but the process called forth in man by belladonna poison is made lasting, not taken up into consciousness, but the transition-phenomena remain. This is the interesting point, that the processes which are caused in man by toxic action, are of such a nature that at the right tempo they are part of the whole human organisation.

As I have already described, the birth of the belladonna means a frantic and excessive urge towards becoming man. And further it might be said that the awakening from sleep in man has something of the nature of an urge towards atropa belladonna: but an urge held in leash and tuned down: confined to the moment of waking. Now suppose you wish to relieve the body of the internal albuminising processes, influencing the organism so that the too powerful albuminising is retarded and the bodily event, so to speak, deflected towards the soul, so that the bodily processes become hallucinations—then give potentised doses of belladonna. Thus you will lift something into the soul, something of which you wish to relieve the body. This is the essence of what we meet in the usual macroscopic operation of belladonna—although here again full of perplexities and illusions, as I have already pointed out. Of course, if you give the human being a shock that prevents the normal passage over from the state of awakening to that of full waking consciousness, and makes permanent the transitional state—well, you kill him. For man is always in danger of death during that brief transition of awakening—but we awake so rapidly that we escape that peril. Such are the interesting interactions between what is accepted as normal, and is sound in measure and tempo, and what becomes anti-normal as soon as it exceeds that measure and tempo.

It seems to me that these were the processes that the physicians of old time sought ever and
again to pursue. If they spoke of the creation of the Homunculus, they did so because their surviving clairvoyant faculties revealed something resembling the phantom of antimony. For there appeared to them, in the forming process which they carried out in their laboratory when antimony unfolded its forces, something projected into it by their own nature, which fights against the power of antimony as albuminising force. That appeared to them as a definite force. That which normally remains concealed within the human organism, they projected externally, and thus they beheld the Homunculus, who appeared during the various metamorphoses of antimony. What appeared in the interplay of these processes and metamorphoses they saw as the Homunculus.
SPIRITUAL SCIENCE AND MEDICINE

LECTURE XX

IF THE study of medicine is to be continued in a way that gives benefit to mankind, a place must be found for what I have tried to indicate in these chapters: the “thinking together” of the whole human organism, in both sickness and health, with the forces, substances and processes in the external world. Only thus can a bridge be built between the trend of natural science, which becomes more and more exclusively diagnostic and the attempt to provide therapeutic methods and preparations. In order, however, to do this successfully, we must first acquire a general view and conception of man, must illuminate him, as it were, through spiritual science, from the point where man as he is today stands in a certain relation to the outside world. This relation is most highly evolved in the interplay of the external senses with the environment and they have relatively little to do with the internal physical processes of our bodies, as for instance the sense activities of the eye. But as soon as we enter the domain of the lower senses, such as smell and taste, we at once perceive how what is external in man connects itself inwardly with the surrounding world. For up to a certain point, man’s digestion is nothing but a transformation and continuation of sense-activity. Up to the point where the foodstuffs are passed from the intestinal process to the action of lymph and blood formation—all that occurs is fundamentally a metamorphosis of sense-activity, which is the more organic in its manifestations the lower its evolutionary grade. So that up to the point I have denoted, we must recognise that the digestive process is a continuation of the sense of taste.

Now if such a fact were estimated at its true value, the ground would be prepared, first of all for a whole system of diatetics, and then for the recognition of wholesome and necessary methods of treatment in this region. Gradually, too, we should be able to recognise injuries and impairments there. Consider, for instance, the following fact. Follow the operation of—for example—ammoniac salt on the human organism. The adherent of current natural science will say that salts of ammonia, if administered in the form of salmiac, act primarily on what such current theory obliges him to call—the muscular motoric nervous system of the heart.

But this whole nervous system which is supposed to be motoric is an absurdity. As I have sufficiently emphasised, there is no difference between the sensory and the motor nerves. The whole conception of such a distinction is absurd. The matter in question is entirely different. So long as the ammoniac salts retain their efficacy—let us say within the area of the body between
the processes of taste and of blood formation—there is also a continuous process of taste in the interior of the organism. This continued process of taste is at the same time a process in the astral body and releases a reflex action in that body, which is manifested in perspiration. If you can accept the whole of the earlier stages of our digestive activities as a continued process of taste, you will extent of the urinary excretion a well. For let me ask you to consider this: if we observe the main activity of this area, we find that essentially it has to do with an absorption of foodstuffs taken into the body, by the internal fluid secretion of the organism. That is the essence of what happens. All the processes in question reduce themselves—more or less—to this dissolving effect of the bodily fluids upon the foodstuffs. And this dissolving process has its counter-process, which consists in the special activities of the liver and the spleen. Thus in our earlier discussions the hepatic and splenetic activities had to be associated, in the main, with aqueous and fluid activities. But, in contrast to the dissolving effect in the first region of the digestive process, the liver’s action operates as encapsulation, encirclement and re-transformation of what has been done in the first part of the digestive process. One may obtain a picture of what happens if one looks at the effect produced by throwing a handful of salt into warm water. The salt disperses and dissolves—this is an image of the action in the digestive tract, until the foodstuffs are absorbed into the bloodvessels and lymph channels. Now let me place beside the salt and water, some little globules of quicksilver, with their imperative urge to roundness, to completion, to organising and shaping. This is an image of the action which begins after the absorption of foodstuffs into the blood and lymph channels, and is controlled from the liver, with its close association with man’s astral body.

We must look into the processes of life from this standpoint. For then we pass naturally to the study of the external world as revealed, for instance, in the structure of salt and of mercury formation respectively. We can read from the facts of the external world the gist of what must happen within the organism. But man must always be observed in connection with this external world.

Now follow further these ammoniacal salts; and note that if they pass into the formation of the blood, they have an alkalising effect. They have gone far enough on their appointed path to extend their operation into the upper human sphere from the lower, and to provoke reactions in that upper sphere. The significant fact here is, however, the complete reversal of processes that takes place. What happens may be stated as follows. The upper sphere in man is normally urged to act through sense perception in the lower digestive tracts, that is, to perceive through the sense of taste; but now the whole process is reversed—the lower sphere inclines more towards
conscious perception, and the upper inclines towards that which works upon perception. The result is that whereas formerly there was a reflex action, which I have characterised as proceeding from the astral body, there is now a reflex action from below, that is to say, of an action which originates in the upper sphere. So that—to use a technical term—the ciliary epithelia, for instance, vibrate more rapidly and the pulmonary secretion increases. There is a reversed action. At first, the dissolving process stimulates the liver’s activity, and then, through this encapsulating hepatic activity, the dissolving operation of the region above the liver—namely of the lungs—is called into action, with the secretion of the upper organs instead of the dissolution in the lower. That is the path in the human organism; from the intake of the substance, through dissolution or liquefaction, through saline processes to formative processes and concurrently, the processes of dispersal which are comparable to combustion and evaporation. Now let us think on the one hand of drops of quicksilver, and boiling liquid on the other, in constant evaporation, giving forth steam—which we might term phosphoric-sulphurous action, a process in which, as it were, inorganic matter is kindled. Then one has the activity developed in the opposite group of organs, that is to say in the lower sphere, but also in all that is associated with the lungs in the upper man.

If we have grasped the main currents of this internal activity, we have the key to what it can incorporate from the external world. If you will call to mind our very recent lectures, you will realise that all the stages of dental formation are a very peripheral activity of the human organism. They soon, therefore, become wholly external, tending to mineralisation, as has been pointed out. I hope this term will not be misunderstood; there has been, I think, some misinterpretation. I said that because the process of dental formation is so extremely peripheral, it is justifiable to use external technique, including the mechanics of dentistry—because other forms of external help are impracticable, if the trend to mineralisation has bone too far, and the teeth are decaying. In such cases, it is only possible to apply mechanical treatment to what has mineralised externally. And mechanics here include all manner of dental repairs. Such external aid is necessary and justifiable if the teeth have become defective beyond the point at which they can no longer get what they need from within. But care must be taken of the supply from within of this process of fluorine formation which the whole organism also needs. When the teeth cannot carry out their fluorine activity, a substitute must be created for the process of fluorine in the organism. The replacement can be supplied in a certain way, but we must duly consider the reversal process—which has just been outlined.

What is the reality of this whole emergence of the teeth? It is nothing less than a movement of the mineralising process from within outwards. When the second teeth are all through the gums,
this pushing outward of the mineralisation has reached completion. It is opposed by the process of sexualisation, which again drives from outside, inwards; and these two opposite processes act and counteract one another, as in a rhythm. In the same measure as the process of dentition becomes complete, the process of sexualisation proceeds apace at the opposite pole. And in recognising this you will also become aware of another process directed inwards and backwards, and also a polar opposite to dental formation and function, and actually closely associated with it; namely the peristaltic motion of the intestines. Here, then, are two intimately connected processes. Thus all that appertains to intestinal peristalsis is closely associated with what on the other hand builds up the teeth. This peristaltic movement is inwardly connected with the utilisation of fluorine in the human organism. It may be said that whenever the intestinal peristalsis proceeds more rapidly and with greater vigour than is consonant with any individual constitution, there is a reactive effect detrimental to the teeth, and especially to all the normal function of fluorine in the human organism. So it will be necessary, in cases where the teeth are extremely defective, for the dentist to suggest a slackening of the whole intestinal function. This may be done externally by prescribing rest, should this be practicable for the patient, or by the administration of sedatives to the digestion, thus diminishing the vigour of the intestinal movements somewhat, though not to any great extent.

The regulation of these functions is of special significance; it is promoted by means of the limb exercises which I have already mentioned. These exercises follow regular rules and apply to arms, hands, legs and feet. Especially beneficial is the control of movement through eurhythm—because eurhythm permeates movements with soul. If however the gymnastic exercises lie too much in the merely physiological realm, the pendulum swings too far on the other side and the results may easily be the reverse of what is desired. This is the reason why, for example, the excessive amount of ordinary dance movements that many young girls are expected to undergo may react harmfully on dental formation, and why one need not ask why girls who dance so much have, as a rule, more defective teeth than boys. The point is that dancing should not be exaggerated and should be permeated with soul. And what of the hands? The movements proper to knitting and crochet work can be and often are performed to excess, and in such cases we find results diametrically opposed to the benefit which a sound employment of this handicraft can bring to mankind.

Thus even in the sphere of mechanical ostensible movement there is a reversal of processes. In the first place the dental process is a reversal of the digestive. Moreover the human power of locomotion, of forward movement from place to place, in the external world, is a reversal of the
movement interiorised in the process of digestion. It means very much for the constitutional health of mankind that man moves forwards, but that the digestive processes are mainly directed from front to rear. This is extremely important, and it is possible to do something for the alleviation of inert, digestive processes, by accustoming the patient to practice walking backwards, as a form of gymnastics. There will be a stimulating effect on the function in question. Such empirical observations, based on collections of case notes, become coherent and unite into an understandable totality, if we turn the light of spiritual science upon the whole constitution of man.

Another point may be brought to your attention. There is no doubt whatever of the remarkable effect of *Nux Vomica* on man. On what does the action of *nux vomica* depend? Let us observe its action under special circumstances, and we shall have a glimpse into its inherent operations. Study the effect of an administration of *nux vomica* in what is known as a “hangover”; this will give you the key to its effect. There is real reversal of all human organic activity under the after-effects of alcohol. For a “hangover” is the continuation of a process which is vividly at work in the upper digestive tract. It occurs if the natural internal activities following indulgence in wine, beer, or champagne, which are normal up to the incorporation of these substances in the formation of blood and lymph, pass the boundary line and affect these latter processes. If that occurs, the regions of the human organism which have as their proper office the liquefaction and dissolution, are changed into a kind of sense organ; and instead of the man turning his main sense attention and activity to the world without, and communicating with that external world, and all the phenomena of earth, he is obliged through the damage done by drinking so perceive his own interior. For his own organism now contains processes strongly resembling those of the whole external world. Beyond the intestinal activities, into the very lymph and blood activity there has been inserted an internal replica of the earth’s processes, an external world in miniature, an external world within the organism. The man thus makes himself inwardly into an external world, and most painfully and unpleasantly perceives inside himself that which does not disturb in the least if perceived in the external environment. For the human interior is not adapted to become an earth in miniature, but should withdraw from the earth’s processes. The man however, in such conditions, make a little earth in his own interior; something which would be far better placed, if it could be removed outside into full observation and surrounded with the apparatus of sense perception. He is now, however, compelled to perceive and receive sensation by means of an interior, so to speak “turned inside out.”

*Nux vomica* counteracts all these phenomena, by suppressing the sensitivity to this artificially
external-internal state, until natural recuperation asserts itself, which is generally soon after excessive alcoholic indulgences. By suppressing this sensitivity, in the interiorised external process is not disturbed; and nux vomica has a healthy effect, by modifying and reducing the continuation of the metamorphosed process of taste. When much modified, this metamorphosed process of taste no longer acts disturbingly on what lies beyond it. Thus some measure of cure is brought about.

Now, assume that the exact contrary occurs. Instead of an enhancement of the continued process of taste—namely of liquefaction—the process is weakened, so that he food substances are insufficiently dissolved. Assume the following: instead of the liquefaction of food-intake at the normal rate and amount, and instead of the food being taken up into the saline process, the interior of man proves too weak to carry this through. In this case the upper digestive tract works in the same way as though nux vomica were administered; it operates by itself, with the help of another process; and the insufficiently dissolved foodstuffs will try to adapt themselves to this change. They cannot pass over the boundary between the activity that causes taste, and the activity that builds up the blood, and they therefore seek an outlet in the opposite direction. Thus that condition arises which can be combated by quickening the dissolving process, whereas it is slowed down through the effect of nux vomica. And all that seeks the wrong outlet may be combated by administering Thuya. There you have the polar opposition between nux vomica and thuya, developed out of the functions of human nature itself. This is another proof of the need to regard constantly the totality of the human constitution, for these inherent polarities of the human organism are of inestimable significance.

All the activities whose trend is to force the process of the lower organic sphere of mankind into the upper, are enhanced during sleep. It is necessary to take great care in describing sleep. Sleep is indeed one of the best of remedies, but only if employed to the right amount, neither too much nor too little, so that it suits the particular human individuality. Too much sleep—i.e., more sleep than the individual in question can sustain—is not curative, but toxic. During a too long spell of sleep, the internal barrier to which reference has been made lets through a continuous infiltration; too much passes through from the first digestive area into the region of blood and lymph formation. Man is exposed to this danger quite generally; the lower organic sphere is in a permanent state of sleep, so that man is always in danger of harmful effects on the blood through the processes of the lower organic sphere. But man also carries the antidote to this toxic process; an antidote proportioned to the normal conditions of our organism. The normal human organism tends to auto-intoxication through sleep; but this tendency is
counterpoised and held in leash through the iron content of the blood. For iron is first and foremost the metal of most importance to the interior of man. Iron operates so as to restore the balance in case of an excessive impact of the first process on the other. Just as diseases can be understood through the deficiency in the blood, from the points just emphasised, you will have a curative effect on the organism if you administer iron in much diluted form, so that it is truly akin to the continuous homeopathising process of the upper human sphere; you will help the organism to master the disturbing processes which pass upwards from below. The other essential metallic processes of importance to man, are, as you have seen, replaced by our human functions themselves.

In this connections I want once more briefly to recapitulate the conclusions to be drawn from the whole spirit of these lectures. Today we have again referred to the blood and lymph formative processes in man. This activity is polar to what arises in the mineralising process in the case of copper. There is thus an affinity between these processes and the metal copper. We must clearly realise that these processes and the metal copper. We must clearly realise that these processes belong to the lower organic sphere, although in its uppermost portion; and that the affinity with copper is such as to constitute a powerful attraction towards the copper-forming force itself, as we find it upon the earth. For all that appertains to the lower organic sphere in man, has kinship with the telluric processes. Therefore, if we aim at influencing that region by the administration of copper, we should make it a golden rule to administer copper here in low potencies, so that its action resembles that in the telluric sphere, and of course not in doses large enough to cause harm.

A similar kinship as between the inner process of blood and lymph formation and copper, is present between all processes leading the outer digestive process into the internal metabolism that forms blood and lymph, with the liver on the one hand and the metal mercury on the other. Just as the former process has affinity to copper, so the other process is akin to quicksilver or mercury. But we must remember the spherical, i.e., rounded, and balancing qualities of quicksilver; it is therefore linked up with the interactions between these two processes. But the processes which man must unfold in order that not too much digestive matter should pass into the blood, and which are activated by the effects of nux vomica and combated by the effects of thuya, are in their turn regulated by the forces of silver.

Thus we have the field clear before us, and are in a position to examine external nature according to these constituents, conceiving it, so to say, as a human being spread out and displayed, so that we are able to fit man into the environment, whether in health or disease; for the
lower organic sphere is in particularly close connection with the environment. The processes which ascend from the lower to the upper sphere in man, through their kinship with the forces of copper, are regulated and balanced by copper’s opponent: iron. Thus iron is an absolute necessity for man; there must always be a surplus of ferrous processes, to use a chemical term. All other metallic processes are present within us as processes; mankind is as it were a sevenfold metal. Iron alone is within us in its typical iron state; the other metals are only present as process.

Just as all that collaborates with blood and lymph formation in our organs is akin to copper, so all that opens outwards from lungs to larynx, with its starting point in the lungs, is akin to iron. Furthermore, the regions associated with those portions of the brain which serve internal functions, which in fact are more similar to the digestive activity of the brain, and correspond alternately with the transitional processes from the intestines to the channels of lymph and blood: —these are allied with the processes that form tin. These tin-formative processes have the effect, so to speak, of ensouling and regulating the digestive functions in the particular tracts and stages mentioned. Finally all that is more connected with the nerve fibres, and the organs of the upper human sphere that may be regarded as continuations of the senses, have lead as their affinity; and this also corresponds to the liquid secretions or excretions, whether sebaceous or urinary.

Such are the affinities and correspondences illuminating the nature of man, and at the same time indicating how we can extract remedial effects from counter-processes in the substances of the external world. But we must keep one point quite clearly in our minds. Spiritual Science must point out particularly that so-called “mental diseases” in many respects have their main set in the bodily organs, whilst, concurrently, “organic diseases” are closely interwoven with spiritual and soul factors. This is a chapter of peculiar difficulty. The materialism of today explores and handles so-called physical sickness on wholly chemical or mechanical lines, treating man more or less as an apparatus. At the same time, in its diagnosis of so-called mental sickness, it is reduced to a mere description of psychical symptoms, because this contemporary materialism has lost any comprehensive view of the connection between the soul and spiritual nature on the one hand, and the bodily and physical nature on the other.

This close association reveals itself particularly if we study concrete cases of the interplay between the soul state and the bodily diseases. If an individual fall ill subjective symptoms appear at first, pains, unusual sensations, etc. These manifestations which are most conspicuous in acute cases and change their nature if the condition becomes chronic, are the initial actions of the soul
and spirit, in response to any organic injury; soul and spirit withdraw from the organ in question. The pain that is felt is the retirement or withdrawal of ego and astral body from the physical and etheric bodies. This process may coincide with a withdrawal of the etheric body from the physical; but the main and essential ego is still strong enough to be aware of the whole subjective counter-process, the conscious counter-process of what happens in the bodily organs. If a illness becomes chronic, the process gradually fall away from the ego, so to speak, and as a result the soul’s processes are restricted to the astral body, and the ego no longer shares in the sufferings of the astral together with the etheric body. And so organic disease may become chronic, the acute condition become permanent. Here we have to do with soul symptoms, which withdraw from consciousness. If we are to become symptomatologists we must go below the surface in man. Instead of asking the patients how they feel, and where they suffer pain, we should inquire whether they sleep well and are ready for work. That is to say, in chronic states of illness, we must look for symptoms in conditions which cover greater spaces of time and are related to man’s general development; whereas in acute illnesses we may consider momentary subjective sensations as significant. In chronic cases, we should have more regard to the whole course of the life in question, than to the individual clinical symptoms.

Ordinary physical illness of chronic type arises if the whole morbid condition can be so retained in some organ that the astral and etheric bodies can both take their due share of the organic effects and contribute as much force to the parts in question as is necessary. The patient may be of an individual constitution able to endure an irregular function of the astral body, working through the etheric into the organ affected. If such is the case, and the patient is able to bear such abnormal operation of the astral body on the liver, for instance, and to carry it beyond a certain critical point, so that, as it were, the liver ceases to feel that the astral body operates abnormally: the organ recovers, but at the cost of habituation to abnormal and irregular action of the astral body. If such action goes on long enough, it begins to choose the other way, into the soul sphere: what the liver should take up into the physical body is shifted into the soul region, and we have the symptoms of depression. Thus, if the man surmounts chronic illness beyond a certain point of abnormal relation with the astral body, a disposition has been established towards so-called mental disease.

To regard the subject in this light would bring us further than the mere pathological description. There is much talk today of the irregular course of concepts, of the irregular course of will action, and so forth. But so long as science does not know how the remarkable collaboration of liver, spleen and other abdominal organs actually support what finally emerges in its highest
soul form as the human will, so long will it fail to discover the relevant physical correspondence for pathography. It should be possible to introduce the physical treatment in so-called mental cases. It seems indeed paradoxical that it should be left for spiritual science to advocate physical treatment for so-called mental diseases and to emphasise the importance of the soul as a factor in the cure of bodily ills. But this apparent paradox is due to the powerful antithesis between the upper and lower sphere in man. With this reversal is connected what happens if the sensory activity set train from outside, becomes an internal sensory activity, as in the continued process of taste, mentioned above; or again, as in cases where what is within discharges itself externally through the vibration of the ciliary epithelia, or in the tendency to such epithelia vibration. In the interactions of the upper and lower bodily spheres lies a clue which can show the way to certain results, if it be read aright.

Now, my friends, I have tried to put many considerations on many subjects before you, in these twenty lectures. Before I began the course, I told myself, in viewing all the subject matter, that it would be a difficult thing to do; for where could one begin? If one were to start with the elementary facts, it would be impossible to get very far in the allotted space and time; no farther, in fact, than would furnish a guide, or a rough guiding thread. If, on the other hand, one starts at the apex, so to speak, with purely occult facts, it becomes almost impossible to build any bridge to the medical science of today. This would require even more time for explanation and argument. And indeed, wherever the far-reaching ravages of materialism have been recognised today, one also sees the need to counteract these injuries from another approach. I beg of you to take what I say in the most friendly spirit, and not as propaganda or as ex parte statements. I do not wish to “take sides,” but simply to put before you the facts as they really are. One thing alone may and must be stated: in reviewing contemporary medicine of the allopathic school, we become aware of one inevitable consequence of that path, namely, the tendency to judge the sick person according to certain by-effects of the disease, as exemplified in the bacterial theory; the diversion to secondary issues. If bacteriology were treated as an aid on the way to knowledge, it would be of great service; much may be learnt from the specific types of micro-organisms, regarding the illness in question, for each specific kind of bacillus appears under the influence of quite definite primary causes. There is always opportunity for verifying this. But this pronounced tendency to take what is secondary for what is primary and basic—as shown, for instance, in the investigation of the effects of bacteria on the separate human organs—instead of the study of the totality of the human organism, as a potential soil for bacteria, is an error which not only makes its appearance in the accepted bacteriology of allopathic medicine, but lies implicit in the whole attitude and
point of view. In this way harm is done which it would be superfluous to enumerate in detail, as you will have had ample occasion to perceive it for yourselves.

On the other hand, however, I must ask you to forgive me if I point out that a scrutiny of homeopathic medicine does not always furnish satisfactory results. True, homeopathy attempts to handle the human being as a whole; it forms a comprehensive picture of all the symptoms, and attempts to build a bridge to therapy. But the professional literature of homeopathy brings to light something else calling for comment. At the first glance one is almost in despair, for especially in the therapeutic literature, we find the remedies enumerated one after another and each recommended for an entire legion of illnesses. It is never easy to discover specific indications from the literature, for everything is beneficial for so very much! I will admit that for the present, perhaps, this is unavoidable. But it is also a source of danger. And this danger can only be avoided if we proceed as we have sought to do here, even if on elementary lines, and by indications rather than in detail. Therefore I have selected elementary facts as the content of these lectures, and not—so to speak—the very summit of the finished structure. This can only be remedied if through such an inner study of human and extra-human nature one ascends to the narrowing of the compass of a medicinal remedy, to its delimitation. But this can only come about if we not only study effects of a remedy on both the sick and the healthy, but gradually endeavour to view the whole universe as an integral unity, and man as involved in it. For example—as I tried to show yesterday—we should trace the whole antimonising process, in order to learn the effects of antimony in the external world, and to correlate these results with the effects of antimony within the human interior. Through this method, certain circumscribed areas—so to speak—are defined in the external world, which then have their interconnections with man.

Such were the reasons why I put the elementary considerations into the foreground of these twenty lectures. Nature-therapy, since it instinctively tries to revive in man the remedial forces contained in himself, makes it necessary to point out the true origin of these forces. Their true basis and origin is the interaction of the telluric with the extra-telluric sphere. And nature-therapy must above all avoid drifting into materialism; for we have come to such a pass today that every party programme, so to speak, has a materialistic tendency. This is a feature common to all of them. And thus there is an urgent need for a spiritualisation of this whole field. The world of today, however, very much opposes these things. It is in fact essential that the cure for materialism should appear in the very field of medicine represented by experts and specialists. For what has been attempted here and is perhaps even now in its first stage of development, must not be confused with any furtherance of dilettantism. I attach the greatest
importance to the co-operation of those who are able to testify to our effort to work on proper scientific lines: to their co-operation and support in fighting the very harmful prejudice against us on the score of encouraging dilettantism in any direction. We have already availed ourselves of all the achievements of modern science and taken them into account. There is but little desire, however, to see our actual aims and intentions.

This is the note on which this series of lectures can fitly close. It may induce you to regard the series with all indulgence as a beginning, an introduction; and, in the outset of this introduction, as I said to myself, it was indeed hard, for the reasons already recapitulated, to know where best to begin. But now, my friends, that we have reached the end of this beginning, I confess that it is harder still to conclude. Yes, indeed, not to tell you all that there is yet to say—is more painful still.