#### Rudolf Steiner on Traditional Childhood Illnesses and Vaccines

Compiled by David Adams

The following quotations include virtually all of the references to these topics I was able to find in English translation. Rudolf Steiner generally portrayed the traditional childhood diseases as signs, aids, trials, and accompaniments of the natural process of child development and maturing immune systems. He helps us to understand their deeper meaning and management within human development. Probably because vaccines for suppressing these diseases were far less common, varied, and widespread in Steiner's day, he says comparatively little about them – with one particularly significant warning for the future in the final quotation. Although I checked several German indexes of Steiner's work to try to make sure I found everything, I no doubt have missed at least one or two references or private conversations. Please let me know of any you know about. ctrarcht@nccn.net

## The Measles - Scarlet Fever Polarity

From *Course for Young Doctors* (Spring Valley, NY: Mercury Press, 1994: GA 316), pp. 128-133.0 Also translated as: *Understanding Healing: Meditative Reflections on Deepening Medicine through Spiritual Science* (Forest Row: Rudolf Steiner Press, 2013; GA 316).

## April 21, 1924

129 – "... To begin with, the cosmos is copied. This is what the human being wants, in reality, to do when he has come down from the pre-earthly into earthly existence. Why does he not do it? Because a model is already provided. And in accordance with this model, with the substances received, he transforms the pre-earthly during the first seven years of life. His inherent tendency would be to form a more spherical being, a being organized into a sphere. This is transformed in accordance with the model and so the pre-earthly forces work out this second physical man who is there from the seventh to the fourteenth years, but to begin with by adhering to the model which comes from the forces of heredity."

130 – "In the first [seven-year] life-period, therefore, there is a perpetual struggle between what comes from us out of the previous incarnation and what comes from hereditary development ["the model"]; the two elements fight with each other. The illnesses of childhood are the expression of this fight. Just think how intimately the whole inner being of soul and spirit is bound up with the physical organization during early childhood. When the second teeth appear you can see how they push up against the first, how they still have tussles with each other, and in this same way the whole second man has tussles with the first. But within the second man there is the super-earthly being; in the first a foreign, earthly model. These two work into each other, and if you observe this inter-working truly, you can see how, if the inner man who as a being of soul and spirit was present in pre-earthly existence, has too much the upper hand for a time, working into the physical very strongly and having, willy nilly, to adjust itself by dint of effort to the model, that it damages the model by striking up against it everywhere, saying: I want to get this particular form out of you – then the fight expresses itself as scarlet fever. If the inner man is tender, so that there is a continual shrinking back, a wish to mold the in-taken substances more in accordance with their own nature, and resistance is put up to the model, the struggle comes out as measles. What is, in reality, a mutual struggle expresses itself in the illnesses of childhood."

- 131-132 "... The fact is that one being is weaker, directs himself more in accordance with the forces of heredity, builds up the second man with a greater resemblance to the model. This naturally comes out in the appearance, but the same thing has been going on when the being has adjusted itself more in accordance with the model. On the other hand, there are human beings who after the change of teeth become very unlike what they were before. In such cases what comes from the pre-earthly life of soul and spirit is strong and they adhere less to the model."
- 132 "Everything that has to be taken in [during the first seven years] must, in the first place, be taken in by the child and elaborated inwardly in such a way that the ego and astral body enter into intimate contact with the foodstuffs. Later on this need not be the case any longer. . . . During those years he must work up in his ego and astral body everything he takes in . . . in such a way that it can be molded in accordance with the model. This process must be helped; and the world has arranged for it, inasmuch as milk is able to bear a

very great resemblance indeed to an etheric structure. Milk is a substance which really still has an etheric body and because this substance, when it is taken by the child, still works up into the etheric, the astral body is able at once to take hold of the milk and then there can arise the close inner contact between what is thus taken in and the astral body and ego organization....

"In the whole way in which the child drinks milk you can actually see how his astral body and his ego are taking hold of the milk – you can see it with our very eyes. . . . Picture to yourselves how the being of spirit and soul comes down and makes its way to the physical foodstuff, ignoring the model to begin with, and then picture what is going on between the being of spirit and soul and the foodstuff – a process that is now directed in accordance with the forms contained in the model. If you form a true picture of an excessively strong working of the spirit and soul, the picture crystallizes into that of scarlet fever. A picture of a too feeble working of the spirit and soul, which wavers, in fact of the model, becomes the picture of measles. If you picture these things in meditation you carry over ordinary meditation into medical meditation. . . .

"You cannot notice this process in a grown-up person. The digestive tract takes over the food stuffs – it is a process transacted inwardly, whereas in the child, astral body and ego take over the foodstuffs."

# Childhood Illnesses, Rickets, Phosphorous and the Uterus

From *The Healing Process: Spirit, Nature and Our Bodies* (Hudson, NY: Anthroposophic Press, 2000; GA 319), pp. 172-173.

# August 29, 1924

172 – "When a child enters the world, the astral body and I come from the spiritual world, while the physical and etheric bodies come from heredity, from the child's ancestors. A struggle takes place as these two elements attempt to merge. The various types of childhood diseases are outer manifestations of this struggle. We see childhood diseases in the right light only when we view them as the attempt of the eternal core of an individual's being to adapt to what heredity has provided. Especially when the ether body has difficulty adapting to the astral body and the I-being, we see illnesses developing as a consequence of the ether body's preponderance over the approaching I and astral body. Rickets is an expression of the ether body's predominance – its resistance to the invaders, as it were.

"Tracing the spiritual aspect in addition to the physical allows us to discover specific means of negating the power of the ether body that blocks the astral body. What deprives the ether body of this power in the normal course of events, as an individual gradually approaches the physical world from the spiritual world during the embryonic period? When we study this period, we discover a specific relationship between forces present in phosphorous or its compounds and forces in the uterus that resist embryonic development. If these forces were not present in the uterus, every child would develop rickets. The uterus contains the same type of forces that are present in the outer, natural world in the mineral substance phosphorous and its compounds. Thus, the uterus constantly works like a physician to prevent rickets. Once we have understood these revealed mysteries, we will be able to treat rickets with phosphorous in the outer world after birth to compensate for insufficient phosphorous effects in utero."

## Scarlet Fever, Interventions, Etc. in the First 2-3 Years

From *Soul Economy and Waldorf Education* (Spring Valley, NY: Anthroposophic Press, 1986; GA 303), p. 109-110, 112.

109-110 – "If we wish to find out what the soul of a child is like between birth and the seventh year, we have to observe the child's development from the seventh year onward. For then, in the child's soul, we are able to observe the very same forces which previously were active in its physical organization. And we shall find that their hidden organic activity of molding and shaping the child's brain as well as its remaining organization is of a very special significance. For, through birth or conception, the child carries down into its physical organization what it has brought with it from the worlds of soul and spirit.

"When the child is thus fully engaged in building up its physical organs, it must be left free to do so and consequently, the doors leading to the outer world remain closed. It is essential that we refrain from interfering in our clumsy ways with these inner activities of the child, for it is doing what it has to do, with the effect that it is not accessible to external will forces.

"... we must never forget that what will work in the realm of the child's soul after the seventh year is directly involved in the organ-building processes before that age. This means that up to the seventh year any

impressions coming from the outer world will directly affects its physical constitution – the lungs, stomach, liver and all kinds of other organs. . . . will have a decisive effect upon its future constitution of health or illness."

112 – "What the child learns during the first two-and-a-half year period is of utmost importance for its whole life. It does so, through an inward-bound activity, out of what it has brought with it from its prenatal existence. Only consider how during the this first short period the child learns to speak and to walk, the two human faculties closely connected with an individual's maintaining a proper self-confidence, both from a personal and a social point of view. These two importance faculties are achieved while the etheric body is still engaged in shaping the brain and while it is still raying out into the remaining organism. If these etheric forces ray out too strongly into the remaining organism so that they disturb the infant's still delicate processes of metabolism, of breathing and blood circulation, if they surge too powerfully within the baby's organism, scarlet fever and kindred children's illnesses may occur already at this young age. Fundamentally speaking, through all that is at work within a child at that stage, the child remains inaccessible to any conscious and will-directed approaches or demands coming from outside. It wants to be left to work on its own organism."

# Diphtheria, Influenza, Measles, Scarlet Fever, etc.

From Comets to Cocaine: Answers to Questions (London: Rudolf Steiner Press, 2000; GA 348), pp. 237-251

#### January 20, 1923

- 237 . . . the flu . . . is related to all the diseases, such as bronchitis, that can afflict the human head or the organs of the upper chest, but I will refer particularly to illnesses such as diphtheria and influenza that are so widely prevalent just now. These diseases afflict the upper part of the human body, and they have a definite peculiarity. They can best be studied by examining diphtheria; here one really can learn the most.
- "... When I see people suffering from influenza, I must always turn my attention to something other than the symptoms that the doctors pay heed to, because the flu is actually a kind of brain illness. The flu is really an illness of the brain! I shall say more about this later.

"The following points must especially be taken into consideration regarding diphtheria. First, if you look at a child suffering from diphtheria – adults can also suffer from it, you know – you can see a membrane in the throat. (238) This membrane, this formation of tissue, is usually what can cause suffocation in diphtheria. . . . The second thing one notices in diphtheria is that the heart of a diphtheria patients is always attacked. The heart does not function properly. The third aspect of diphtheria is that even if the patient is not strongly afflicted by the membrane in his throat, he nevertheless has a hard time swallowing because of a kind of paralysis of the throat that occurs in addition to the membrane. Finally, the same symptom that is nowadays observed in those suffering from influenza also appears in diphtheria patients: their eyes begin to cross and they see double. These are the most important symptoms of diphtheria that can be noted in the upper part of the body. A form of kidney ailment, unobserved in those who suffocate and die, appears as an after-effect in the diphtheria patients who recover.

"What does diphtheria really consist of? Diphtheria can be understood only when one knows that Man is actually kept alive from two directions – from the outside in and from the inside out. Man lives first from within his skin..., within his surroundings....The skin is constantly in contact with the outer air, with the external world, which causes it to become calloused. In humans it only becomes a little calloused and then sloughs off. The skin all over Man's body constantly sloughs off.... He is constantly exchanging his physical body because of outside influences....

239 - "Aside from this life proceeding from the outside in, there is also a life passing outwards from inside, particularly from the kidneys. Both must be active in the human being. (240) Activity both from the skin inwards and from the kidneys outwards must be at work. The heart occupies a position in between and is highly sensitive to too much activity from outside or within. The heart can sense when the kidneys begin to be overactive, and it also senses when the skin's activity begins to be too strong or too weak.

"Now, what happens in the case of diphtheria? In diphtheria the skin suddenly becomes weak and subdued. The activity of the skin is too weak, so a person with diphtheria suffers from too little exchange of air through the skin. Indeed, this is the main problem. The skin, including the skin of the nose exposed to the external surroundings, does not breathe enough, and it becomes too weak. The instreaming activity . . . no longer functions properly, and the heart senses this. The heart also senses that the kidneys' work is rising

upwards.... Long before inflammation of the kidneys, that is nephritis, sets in, the activity of the kidneys is already shooting upwards. Because the skin activity is no longer working effectively from outside, superfluous skin forms on the inside... (241) filling everything out, because the kidneys' activity is too strong.

241 - "When a person becomes afflicted with shrunken kidneys, which can occur when the kidneys' activity is deficient, you can see an indentation here on the head. There is a connection between the kidneys and this section of the head. As soon as the kidneys' activity is not working properly, this indentation occurs. You can see in every person who has kidney disease this indentation in the head. Beneath it lie the optic nerves. When the indentation occurs, the optic nerves become inactive. In the case of ordinary kidney shrinkage, the patient begins to see unclearly. When shrinkage does not occur but nephritis sets in instead, the kidney activity shoots up into the head and exerts an influence on the optic nerves.

"Now, you see, the optic nerves are such that when the head is viewed from above, they proceed back from the eyes. They cross in the brain, the two optic nerves, and continue on to the hindbrain. . . . The moment these optic nerves that cross are not working properly, we see double. The optic nerves only need to be a little numbed and the crossing not made properly for us to see double. (242) . . .

242 - "The kidneys' activity also has a stimulating effect on the optic nerves. If the optic nerves do not interact properly at the point where they cross people see double. This is the case, for example, in diphtheria. You can see, therefore, that diphtheria is caused by a disorder in the skin's activity. Therefore, a future, more successful cure for diphtheria will consist above all of treating the patient in the right way with baths; he will have to be given baths that will immediately vigorously stimulate the skin's activity. Then the formation of membranes will cease, and the patient's skin will begin to function properly again.

"Treatment with modified virus vaccine is effective in the case of diphtheria, because the body is thus given a strong impulse to become active, but it has unfavorable after-effects. Particularly if a child is treated with vaccine, it will later suffer a hardening of its organization. One must therefore strive to replace vaccines with bathing treatment, especially in the case of diphtheria, which is caused primarily be the effective activity of the skin. . . .

"It is indeed true that diphtheria is more frequent now than in former times. Of course, one must think in terms of centuries, not decades. According to all that is known of earlier ages however..., diphtheria was more rare. This is connected with the fact that, in general, the European way of life increasingly leads in a direction in which the skin's activity is no longer supported. (243)... You can also see the ill effect of civilization in the fact that bald-headed people are much more numerous today than in the past. The growth of hair is also an outer activity.... in the case of diphtheria, one must try above all to bring about a proper activity of the skin.

243 – "This is also connected with a factor that affects people's offspring. Take a mother or father whose skin is too sluggish and doesn't slough off easily enough. This is most difficult to determine and takes very sensitive insight into human peculiarities and characteristics. . . . This is difficult to determine, because the skin is actually transparent. As it sloughs off, it appears to be colored differently because of what is underneath. Our skin is really transparent. So if a father has a skin that is much tougher than it should be, this also influences the activity of the bones. . . . the production of blood depends on the activity of the bones. If the father has such calloused skin that it reminds you of hippopotamus hide, he will produce white corpuscles that are too weak. This, in turn, influences his sperm, and his children will be weak from the beginning. . . . it is possible for his children to be born with the English disease of rickets, for them to be born weak and to be susceptible to tuberculosis. . . .

244 – "If the father's skin is too soft, something that can be noted particularly when anxiety and so on easily cause blushing, then his bones become too hard, but his has no serious ill-effect.

"If, however, the mother's skin is too soft, alternating between blushing and paling, her bones become too hard and she does not produce red corpuscles properly. At an early age already her child will acquire tendencies to all kinds of ailments such as rheumatism, and particularly illnesses like measles, scarlet fever, and so on, diseases that are related to the metabolic system. These facts are all related.

"Now, as for the flu, it really comes from a brain ailment. The lower part of the brain, located under the optic nerves, suffers a form of paralysis. The flu consists of a paralysis of that portion of the brain that lies quite near the optic nerves. . . . Since this is a very significant part of the brain, an influence is actually exerted on the entire body. (245) Proceeding from this paralysis in the brain, something in the human being becomes ill in the case of ordinary flu. Above all, the spinal cord is affected, since this part of the brain goes right into

the spine, from which the nerves extend to all the limbs. The person thus gets aches and pains in his limbs, and so on.

- "... particularly in the vicinity of this part [of the brain] here [pointing to sketch], which is incapacitated during flu, much cranial fluid is present.....
- 246 "... when the solid part [of the brain] is partially numbed, the ensuing symptoms are brought about through the working of the solid part of the brain on the spinal cord. The fluid, however, constantly flows up and down through the spinal canal here [drawing]. Hence, if the fluid in the brain is afflicted, affected fluid also appears in the spinal canal, and from here it passes into all the limbs. It thereby gradually creates inflammation everywhere. Because it was the cranial fluid that was inflamed, and not the solid part of the brain, however, a more counteractive, healing force was present and [a patient can recover]....

"Although various remedies must also be administered, in such illnesses it is essential that the body be given adequate rest and quiet. The patient must therefore lie in bed, and care should be taken to keep the room at a constant temperature and with steady, gentle lighting, because rest is not only brought about by stretching out on a bed. . . . if the body is left totally to its own devices in conditions of steady warmth and light, it can itself endure even the worst attacks of pneumonia, pleurisy, and peritonitis. The human being is capable of that. Even with the worst illnesses that display the symptoms mentioned, it is more a matter of proper nursing care than of remedies. . . .

247 – "... One must always consider the individual and know him well if one wishes to cure him; one must have insight into what a person is like. In dealing with a patient suffering from diphtheria, for instance, it is under certain conditions best to place him in a rosemary bath so he can smell the rosemary. Repeated long rosemary baths will strengthen the activity of his skin. Sufficient rosemary must be added to the water, however, so that the patient constantly smells it during the bath. The activity of the skin is stimulated, and the patient will improve without being treated with vaccine. It really depends upon being able to use remedies in the right way to stimulate the patient's own bodily resistance.

. . . .

"One must remember that the flu actually has its origin in an ailment of the brain. You will have perceived that a flu patient is always in a kind of doze, because the most important areas of the brain under the optic nerve are numbed. Thus he comes to doze. Now you can also grasp that when paralysis is located in the upper sections of the brain, the point of intersection of the optic nerves is affected and the person sees double. All this shows you that double vision can come about quite naturally in influenza.

"This should be no means be taken lightly.... (249) the intestines and the brain are connected.... 251 – "All processes in the human being proceed outwards from within and inwards from without. If a person is cross-eyed for internal reasons and this condition is externally corrected, he can become ill inwardly [perhaps with intestinal symptoms]; in Man, one never deals with a single activity but with *two activities that meet in the heart*. The heart is in a mediating position ... The heart is not a pump but a most delicate apparatus, which really perceives everything that is out of order.

"... the heart's function can be influenced from within as well as from without. In all illnesses in which this is the case – that is, when something is wrong with a process so that it is prevented from running its course outwards from within or inwards from without – it will be noted that this comes to expression in the heart...

## **Diphtheria**

From *Illness and Therapy: Spiritual-Scientific Aspects of Healing* (Forest Row: Rudolf Steiner Press, 2013; GA 313), pp. 64-68.

April 15, 1921

64-68 – "I believe that it can enormously enrich and intensify our ideas here if we realize that, basically, everything that occurs within us finds its correspondence in processes outside us in the surrounding world. . "

"Now, diphtheria-type symptoms are especially able to give us what we might call intimate insights into the human organism. And these symptoms, manifesting as diphtheria-type conditions, should be studied more carefully in relation to the search for methods of healing. There is still a view today, I believe, arising from a more materialistic outlook, that diphtheria would if possible be treated locally – that this condition should be tackled at the local site where it manifests. Naturally numerous other views also dispute this.

"The important thing about the development of diphtheria and everything related to it requires further elaboration here since, in the last course [Spiritual Science and Medicine], we were not yet able to fully examine this reciprocal action between the four levels of the human organism described by spiritual science. In a different context I suggested that the child's acquisition of speech is accompanied by many kinds of organic processes. The child learns to talk and, while he does so, and while therefore something particular occurs in his respiratory organism, something of a polar opposite nature at the same time occurs in his circulatory organism, the latter of course integrating metabolic processes into itself.

"Now, in a quite different context I pointed out that the reciprocal relationship with our surroundings that appears at puberty unfolds inwardly when the child is learning to speak; and that in other words what occurs when the astral body pushes outward from within at puberty occurs from below upward in the astralizing process. Learning to talk is, after all, a capacity that develops from below upward. Thus an astralizing process is involved there too; . . . The whole process is one that rises from below upward. . . . "

"If the process that rises from below upward spreads out too far in an upward direction, and if therefore too strong an upward push of astrality occurs as children learn to talk, this upsurge of astrality represents a disposition to develop diphtheria-type conditions. This is what gives rise to conditions of diphtheria...

"Now let us also consider the external earth process which has a certain affinity with the process I just described. . . . In a plant which, you can say, behaves properly toward the cosmos, the earth participates in the formation of its roots, and this earth influence then diminishes so that the extraterrestrial influences grow ever stronger, unfolding particularly in the flower. What unfolds here in the flower is in fact a kind of external astralizing of the flower, which then leads to the development of fruit. . . . what happens when, as I said, the plant develops properly, into a decent plant, always a little way above the surface of the soil where the flower unfolds, can also develop right at the surface of the soil itself, and then we get mushrooms and fungi. . . .

"You will likely be close to saying, now, that if mushrooms and fungi develop through this kind of idiosyncratic astralization, then the same process – and this is indeed the case – must occur from below upward toward the head, as in diphtheria, when this singular astralization process takes place within us. And this is why the tendency to a fungal condition exists in diphtheria. We must be very much aware of this fungal tendency, and take full account of it. A really very hidden process occurs here – all its external aspects are in fact only a sign that irregular astral streams prevail within a person . . . . Diphtheria is regarded as a local disorder because only the external symptoms are recognized, without attention to what pushes its way out from within in such a condition. . . .

"The risk of infection is actually great in diphtheria-related disorders, but why? It is because they develop in direct connection with learning to speak, and occur therefore most widely in children aged between two and four. After this age children are less susceptible. But every process in the human organism that arises in the normal course of things at any particular period can also arise abnormally. This process, therefore, that is really simply a natural process of childhood development can also occur at a later age, albeit in a somewhat modified form, a metamorphosis. When diphtheria occurs at a later age this is in a sense an infantile condition that works on in a person. And the fundamental nature of infancy as you know - in mundane accounts of spiritual-scientific facts we usually need to speak in more psychological terms – is imitation. From an external viewpoint, childhood and infancy certainly involve a process of imitation.... The organism itself is induced to become imitative when it contracts diphtheria. This is why infection is caused, really, by an urge to become imitative, and such imitation is informed by a subtle sensibility, which we can certainly observe. If we study the matter through spiritual science, we find that the I does, in fact, play a certain role in the process of diphtheria infection. And therefore what develops as fungal infection, the parasitic nature of diphtheria, is more infectious in this condition than in other diseases because the human organism - to put it in a rough and ready way - perceives diphtheria toxin anywhere, it makes itself receptive to it, relates to it imitative. For this reason, at an initial stage of the disease, addressing the psyche, strengthening a person through psychological encouragement, will always have a beneficial effect.

"With such processes, however, that act so strongly on the organism, we will naturally achieve much less by these means than if we try to discover what I will call the specific antidote to the process occurring there. Here at least I am unaware whether people have made any efforts, even empirically, to discover an antidote to diphtheria-related disorders. [other than serum treatment] One should look for it, for example, in cinnabar up to a medium potency. Cinnabar is the substance whose effects will counteract all the kinds of disorder I have been speaking of. In its very appearance, cinnabar expresses this counteractive capacity. . . . It is important . . . to be able to perceive the inner activity which, basically, is apparent in all external appearances

in the world. Someone, therefore, who . . . retains his healthy common sense, will have to say that vermilion, red cinnabar, is something that in a sense expresses an activity that counteracts fungal processes. Whatever tends toward a colorless state can become fungal. Whereas too strong an astralization of the earth's surface is implicated in fungal growth, in cinnabar-related substances we find a reactivity to this astralization, a counteraction, and therefore the red color. Wherever reddishness appears in natural processes, astralization is strongly counteracted. "

## **Measles and Karma**

From *The Manifestations of Karma* (London: Rudolf Steiner Press, 1968; GA 120), pp. 112-114.

## May 1910

112-114 – An actual case: "A certain person contracts measles in later life, and we seek for the karmic connection in this case. We find that this case of measles appeared as the karmic effect of occurrences in a preceding life – occurrences that may be thus described: In a preceding life the individuality in question disliked concerning himself with the external world but occupied himself a great deal with himself, though not in the ordinary egotistical sense. He investigated much, meditated much, though not with regard to the facts of the external world, but confined himself to the inner soul life. We meet many people today who believe that through self-concentration and through brooding within themselves, they will arrive at the solution of world riddles. The person in question thought he could order his life through inner meditation how to act in one instance or another, without accepting any teaching from others. The weakness of the soul resulting from this led to the formation of forces during existence between death and rebirth which exposed the organism comparatively late in life to an attack of measles. . .

"This soul condition will prove itself to be such that the personality in question, during the life in which the attack of measles took place, was again and again subject to self-deception. Thus in the self-deception we must see the *psychic* karmic result of this earlier life, and in the attack of measles the *physical* karmic result.

"Let us now assume that this personality before developing measles had succeeded in gaining such soul forces that he was no longer exposed to all kinds of self-deception, having completely corrected this failing. In this case the acquired soul force would render the attack of measles quite unnecessary, since the tendencies brought forth in this organism during its formation had been effaced through the stronger soul forces acquired by self-education. . . . what I have said about a case of measles can lead to an explanation why measles is one of the illnesses of childhood. For the failings I have mentioned are present in a great many lives and especially in certain periods did they prevail in many lives. When such a personality enters existence he will be anxious to make the corresponding correction as soon as possible. In the period between birth and the general appearance of children's complaints which effect an organic self-education, there can as a rule be no question of any education of the soul.

"From this we can see that in a certain respect we can really speak of a disease being transformed back into a spiritual process."

## Whooping Cough (Pertussis), Asthma

From From Limestone to Lucifer: Answers to Questions (London: Rudolf Steiner Press, 1999; GA 349), pp. 136-142.

136 – "... a children's disease that is a bit unpleasant ... is called whooping cough. It is not really all that bad for the child at the time when it happens, for he will normally get well again. The bad thing is that something remains if people don't do the right things – meaning doctors or whoever is responsible at the time – when a child has whooping cough. ... Whooping cough means that breathing-in will always be as it should be – you may have a child with really severe whooping cough, it will breathe in properly. ... But when the air wants to come out as the child breathes out it gets stuck, it will not come out the way it should, and then a bout of coughing develops. And with the air not getting out properly, fresh air cannot get in, and this causes the whooping cough. . . .

"But what lies behind it, when a child gets whooping cough? You see, what lies behind it is that the inner mucous membrane of the breathing system, of these tubes that go down to the lung and then out again, grows terribly sensitive. . . . When we have breathed out our air, we have a vacuum in our lungs, and the air will rush in all by itself. . . . {the child's breathing tubes} have grown sensitive. They are just as sensitive as any other place where you may have got a scratch. The inside of the breathing tubes has grown a bit

scratchy, and they are sensitive. . . . wanting to scratch the child forgets to push out the air, and the air stays put in there. You then get these bouts of whooping cough. The body wants to push out the air by force, whilst in life it is the part of us which I called the astral body the other day that pushes out the air. Looking at a child with whooping cough, you can see exactly where the physical body is and where the astral body is. When the child is not coughing the astral body pushes out the air; the body does not have any problems at all. When the child has whooping cough, you have a sensitive spot there. The astral body wants to scratch away; then the physical body has to come in and push the air out forcibly, in spasms. This may even cause spasms, and then another disease may develop in consequence."

138-140 – "... Whilst the child had whooping cough the parents bought a cat or a dog. This has made the child sensitive to the air the dog or cat had been breathing out. He would not have grown sensitive to this if he had not happened to have this sensitive spot at the time. . . . The child then recovers from his whooping cough, but sometimes a strange thing remains behind. If the child has not been used to having a cat around before, and a cat has come to live in the house whilst the child had whooping cough – this will not happen when he has just recovered, but later on the condition will develop which people call asthma, a breathing difficulty that repeats itself over and over again.

"... So a man develops asthma, for instance, and to begin with no one knows where it comes from. If you observe carefully you find that he gets a further asthma attack if there is a cat near him or in the room. If the cat is removed the asthma stops.... {Another example is given of a similar sensitivity to buckwheat.]

"You will now also understand that human health and sickness is altogether connected with the whole environment. . . . There are, of course, many kinds of asthma. . . . .

140-142 – "Well, whooping cough can be cured as follows. Let us assume a child has a sensitive windpipe or tubes, coal dust may have irritated them in some way. This may immediately cause whooping cough to develop.....

"Now imagine you get this fissure, this crack, in there in the windpipe or tubes; the astral body then comes a little bit free there. And the condition can be healed like this, if one does it very carefully.... We first of all put [the child] to bed and let him get into a sweat – you can observe the whole thing step by step – he'll get really hot. The astral body easily joins with heat; it does not easily join with cold. If you let the child run around out of doors or even just indoors, the astral body can't get at the physical body because the warmth it needs is not there. But if you wrap up the child really warm – people often do this instinctively; they'll often tie a woolen sock or stocking around the throat to keep the warmth in – the astral body will start to be attracted to the warmth. So if you have had the child in bed for a time like this and the astral body has been drawn there all the time, it will again and again have been attracted to this part here [drawing on the board; presumably the throat]. You should then take a piece of cloth and put a bit of warm water on it that contains a few drops of lemon juice and put the cloth around the part. This will draw the irritated part together, so that it will again be open to the astral body, and you can cure the whooping cough very nicely....

"... You must also take care in following this procedure that the child does not take fright. For when the child takes fright, the astral body will always come out a little, and this will undo the whole thing.

"If we truly cure the child, the whooping cough will run its course and he'll not have asthma later on. If we do it wrongly, the 'fissures' in the windpipe or tubes will heal up, and the child will seem to have recovered, but the astral body will not have gone in completely, always remaining a little bit outside. Now if a person is very weak, if the child is a weakling, he'll get asthma right away, because the breathing-out process is never quite right. The astral body is not completely involved . . . in the breathing-out process. But if the child is a bit stronger, he'll use the other part of the astral body, with the result that the rest of the astral body will only show its weakness at a later time in life, when another illness comes, for instance if the child later gets influenza or something of that kind. And he'll then develop asthma."

## Smallpox, Rabies, Vaccines

From the Discussion of January 27, 1923; same publication, pp. 253-256.

253 – "air, or particularly the oxygen in the air, is constantly absorbed through the surface of [Man's] skin, and along with the ordinary breathing process of his lungs one can also speak of his skin's breathing. . . . ". . . If Man has his lungs and skin for breathing, then he also needs an opposite, and that opposite is located in the liver. . . . we must learn to view it as the opposite of the skin-lung activity; the liver and the skin-lung activity balance each other. One could say that the liver's constant purpose is to bring into order internally what Man acquires through breathing in his relation with the outer world. That is what the liver is for.

. . . .

254 – "Now imagine that the liver malfunctions. When this happens, all the activity of the lungs and skin is also thrown out of balance, and then a specific problem arises. . . . Through quite delicate blood vessels, the blood circulation reaches everywhere into the skin, into the lungs, and also into the liver. . . . If the liver's function is impaired, the blood cannot flow properly in and out of the liver. If, because of a liver problem, the blood flows into it too strongly and the liver becomes overactive, too much bile is produced and the person becomes jaundiced. . . .

"What happens, however, when the liver's activity is too weak? The blood's activity on the surface of the skin is not compensated for. The blood, which flows everywhere, wishes to be compensated, and the blood in the liver investigates, as it were, whether or not the liver is behaving properly. If the liver isn't behaving properly, the blood rushes to the surface of the body to replenish itself there. What happens? Smallpox is the result. This is the connection between smallpox and a blood circulation which, due to a defective liver, has something wrong with it.

255 – "... The circulation of the blood rightly makes a point of contact ... with the breathing, and whether this occurs in the lungs or the skin really does not matter, because it balances itself out. If the air that enters through the breathing process does not make contact with the blood in the correct way, however, smallpox results. What is smallpox? Smallpox is really the result of the development of too much respiratory activity on the body's surface or in the lungs. A person becomes too active over his surface area, and this activity causes inflammation everywhere.

256 – "What can be done under these circumstances? Well, people already do the only thing that can be done in such cases. They vaccinate with cowpox vaccine. What does cowpox vaccine really accomplish? The vaccine inwardly permeates the body, because the blood circulates everywhere. Whereas the blood is otherwise compensated for on the body's surface, it now has to cope with the vaccine. The overactivity on the surface is thus prevented. Smallpox inoculation does indeed have a certain significance. The blood, which is not properly engaged by the liver, is now busy with the vaccine. Generally, there is good reason for all methods of inoculation. You have perhaps heard that a large part of our healing is based on injections, because an activity occurring in the wrong place can thereby be directed to another part of the human body.

"Inoculation against rabies is especially interesting. Though rabies comes from something altogether different, it is basically the same response as I described in connection with smallpox. Imagine that a person is bitten by a rabid dog or wolf. Such an animal has actual poison in its saliva. This poison new enters the victim through the bite, and the person becomes involved in detoxifying the poison. He may be too weak to do it, and he might succumb to the poison, but something else is really the cause of death. You know that a man first develops rabies before he succumbs to the poison. What is the reason for this?

"Let us assume that I am bitten by a rabid dog. Now I must direct all my inner activities to his spot, and I must let them flow here to use up the poison. This surge of activity is sense by my spinal cord as though I had received a shock. . . . my spinal cord suffers a shock through which I become ill.

"What must now be done to offset this shock? (257) You know that when a person freezes in horror he can be brought to his senses by being slapped a few times. The spinal cord also needs to be slapped, but one must first get to the spine. . . .

257 - "Now, oddly enough, all substances have a way of going to specific parts of the body. The dried spinal cord of [a rabid] rabbit, which retains the rabies poison for a short time – about 15 minutes – before becoming ineffective, is quickly injected into the human being. It enters the human spinal cord, which thereby suffers a counter-shock. It is just as if you shake a person who is paralyzed with fear and he snaps out of it. In the case of rabies, Man's spinal cord recovers from the shock by means of an inoculation with the rabid rabbit's dehydrated spinal cord."

"You see, therefore, that when an activity develops in the human being in the wrong place and he becomes ill, he can be cured if almost the same process is developed in a different place."

#### **Smallpox**

From Course for Young Doctors (Spring Valley, NY: Mercury Press, 1994: GA 316), pp. 97-98, 101.

## January 8, 1924

97 – "Let us take a certain case. I will construct quite an idealistic one – the true theory of smallpox. Real smallpox calls up a very strong Inspiration, with Intuition as well. And the knowledge that that comes to you here, when you are real therapists in this domain, works much more strongly upon you – when it is real

knowledge – than does a vaccination; in a different sense it works much more strongly and in studying the therapy of smallpox as a physician you will bring about a kind of healing in yourself in advance, prophylactically, and will therefore be able, when you understand the connection, to go among smallpox patients without fear, and full of love. But all these things have their other side too. As I have said, if the knowledge of a medicament is a true imaginative or inspired knowledge – then the healing forces are there; it need not even by one's own imagination, it may be that of someone else. In itself it has healing forces. (98) Even to have the idea of a medicament has an effect, and it works. But it works only so long as you are without fear. Fear is the opposite pole to love. . . .

98 - "... What is above all things for medicine is courage, the courage to heal."

100 – "Think of the illness of smallpox which reveals itself in physical symptoms. But suppose you were able to do the following: Picture in yourselves a person suffering from smallpox who in his astral body and ego organization had the power today to draw out the whole illness and to experience it only in the astral body and in the ego, so that in that moment his physical and etheric bodies would be well. Suppose such a thing were hypothetically possible. What I have said cannot actually happen, but if you want to have this imagination you must do the same thing as I have described as a hypothetical case, without your physical body and etheric body having smallpox. In the astral body and ego organization, free from the physical and etheric bodies, you must experience the illness of smallpox. In other words, you must experience, spiritually, a spiritual correlate of physical illness. The illness of smallpox is the physical image of the condition in which ego organization and astral body are when they have such an Imagination. . . . . "

101 – "... If one has a heavenly Imagination such as that of which I spoke, one knows what smallpox is, because it is only the physical projection of what is experienced spiritually. And so it is, really, with all knowledge of illness."

# **Smallpox and Smallpox Vaccination**

From *Physiology and Healing: Treatment, Therapy and Hygiene* (Forest Row: Rudolf Steiner Press, 2013; GA 314), pp. 237-239.

April 22, 1924 "Discussions with Medical Practitioners (Fragmentary Notes) I"

237 – "With a condition such as smallpox, the situation for the individual person is that the I organization withdraws to a greater degree from all three other human bodies, from physical, ether, and astral body. This powerful withdrawal, this weakening of the I organization, may be due to the fact that the individual slips very much into the Is of earlier lives on earth with his present I; because of this the I organization shows marked affinity to the spiritual world altogether. With smallpox, it is worth noting that there is some similarity with the things a person goes through with certain forms of initiation. Strange though it may seem, that is how it is.

"When someone gets to know the actions of the figures in the zodiac on human beings, really gets to know them inwardly, such states of insight involve powerful inner shocks. This the individual can at least go through in that it acts in a more controlled way, this situation with smallpox, more at the soul level, because human beings live very powerfully in the spiritual sphere with smallpox, though in a different way.

"We may say that with smallpox the danger of infection is extraordinarily great. We should not carelessly plump ["support"] straight for physical means of transmitting the disease, however. With smallpox the mental disposition plays a particularly great role. One proof of this would be that one is able to protect oneself extremely well if one is able to contain oneself in the right way. . . . one can protect oneself if one absolutely treats the sick person objectively, like any object, a stone or a shrub, with no feelings of fear or other emotions, but treats them as an objective fact. With this you counter the risk of infection to a high degree. The mental factor can thus play a considerable role when it comes to catching things.

"I have actually never shied away from exposing myself to any danger of infections and have really never caught anything, have never got myself infected. This did show that mere awareness, powerful awareness of the existence of a disease, can bring about the disease through the astral body. Powerful awareness of a disease can be the cause of that disease arising form the astral body.

"And smallpox vaccination? There we find ourselves in a peculiar position. You see, when you vaccinate someone and you are an anthroposophist, bringing him up in the anthroposophical way, it will do no harm. It will harm only those who grow up with mainly materialistic ideas. Then vaccination becomes a kind of

ahrimanic power; the individual can no longer rise above a certain materialistic way of feeling. And that is really why vaccination causes us concern, because people are 'garbed through' with a phantom. The individual has a phantom which prevents him from freeing the psychic entities as far from the physical organism as in a normal state of consciousness. He grows constitutionally materialistic, is no longer able to rise to the spiritual sphere. This is what causes concern with vaccination. Statistics will of course be quoted, and we must ask ourselves if we really must rate statistic so highly exactly in this respect. Smallpox vaccination has very much to do with the psyche. It is certainly possible that belief that this vaccination is effective plays an incalculably great role in this. If we were to replace this belief with something else, if we were to educate people in a way that is in accord with nature, so that they would be impressed by something other than that we are vaccinating them, let us say by taking them closer to the spirit again, then it would certainly be possible for us to be as effective against the unconscious imposition of 'there's a smallpox epidemic here' with fully conscious awareness that 'there's a spiritual element here, unjustifiable, yes, but I must stand up to it' which is just as effective, and we must altogether make the person strong in the face of such influences.

How should one handle this under the kind of difficult conditions in our area, with education and so on having such a negative influence?

"Then you simply have to vaccinate. There's no other choice. I would be absolutely against opposing these things in a fanatical way, not for medical but for generally anthroposophical reasons. Fanatical opposition to these things is not something we aim for, wanting instead to provide insight so that things might change on the greater scale. I have always seen this as something I had to combat when with medical friends such as Dr. Asch, for instance, who absolutely did not vaccinate. I would always fight against this. For if he does not vaccinate, someone else will. It is utterly absurd to be fanatical in particular situations."

#### **Polio**

Spiritual Relations in the Human Organism (Spring Valley: Mercury Press, 1984; GA 218), pp. 15-19.

#### October 20, 1922

15 – "Therefore if one wants to understand the human being, what is of substance in the head must not be regarded as equivalent with what is of substance in the rest of the organism; rather one must see the interplay between the metabolic-limb organism and the head organism as a rhythm. This, however, enters into each individual organ.

[The example is given of the eye, where there is an approximate 1:4 rhythm between the processes of the optic nerve and its extension in the retina (representing the nerve-sense system/head in the eye) and the tempo of the pulse of the network of blood vessels (arteries and veins), especially in the choroid membrane (representing the metabolic-limb organism in the eye).]

17 – "Countless causes of illness in people are based on the following: For every organism a certain measure of equilibrium exists between this ratio of four and one. . . . Of course, it is never exactly one to four; there are all sorts of possible ratios; in this way people are individualized. For every human individuality, however, a definite ratio exists. If it is disturbed – let us say that a person normally had a ratio of one to four and conditions arose whereby the ratio were no longer one to four but one to four-and-a-seventh – then the dissolving force [from the blood/metabolic-limb system] would work too strongly; . . . you have this type of illness in such a case.

"Just as easily the other rhythm can work too quickly. Then cramp-like conditions arise. When the astral forces vibrate too quickly through the etheric and physical organism, when the astral forces quiver through too quickly and do not approach slowly enough, cramp-like phenomena arise [including paralysis?].

"Take, for example, ordinary children's cramps. These ordinary cramps are simply based on the fact that with the child the astral organism and ego must immerse themselves in the right way into the physical and etheric organism. The right ratio must first be established. Now imagine that that astral organism and the ego, which vibrate at first into the metabolic-limb man, are vibrating too quickly; the other part of the human being cannot grasp this right away. . . . Every current of the astral takes hold correctly of a droplet of the living water through which the etheric streams. They adapt to each other if the right tempo is within. If it vibrates too quickly . . ., then the astral bursts through the etheric and thereby also through the living water,

and cramp-like conditions arise, occurring especially in children's cramps, because there the correct rhythm must assert itself first in this instreaming [astral] . . . .

"This has a very far-reaching significance. It means, for example, that a terrible form of illness, which engenders a lot of questions today, finds at least its explanation here, namely that the correct rhythmic encounters are disturbed in a particular way. An example of such an illness is the terrible illness of polio, which can be explained in this way, though its remedy is not found at the same time, because conditions lying further back have brought about the lack of harmony."

"... Inwardly, regarding what underlies the slow rhythm, the human being is exposed very strongly to Ahrimanic forces; regarding everything that corresponds to the fast rhythm he is exposed very strongly to Luciferic forces. You could also say, therefore, if you were to look once at "The Group" [Steiner's sculpture], that here everything Ahrimanic has the tendency toward the slow rhythm, which hardens the forms and makes them pointed and rigid. In everything Luciferic, the fast rhythm predominates, which rounds everything off, because it runs its course faster. In this rounding, things are not made rigid but wave-like. You can see in these sculptural forms that one has to do with encounters in the ratio of three or four to one."

## **Causes of Polio (Infantile Paralysis)**

From Cosmic Workings in Earth and Man (London: Rudolf Seiner Publishing, 1952; GA 351), pp. 62-72.

#### October 31, 1923

62-63 – "It is still rather difficult to speak about this illness [polio or infantile paralysis], since it has only assumed its present form quite recently, and one must wait till it has taken on more definite symptoms. Still, from the picture one can form at present . . . one can say now that Infantile Paralysis, like its origin, Influenza, which leads to so many other diseases, is an extraordinarily complicated thing and can only be fought if one deals with the *whole* body. . . . This Infantile Paralysis strikes sometimes in an extraordinarily sudden way and we may well be anxious lest it grow into a very serious epidemic.

"Now Infantile Paralysis is certainly connected, like Influenza itself, with the serious conditions of our time."

- 63 "In [our Biological Institute in] Stuttgart we have succeeded in obtaining dilutions of one in a million, one in a billion that is, with twelve zeros." [even one in a trillion, he adds later]
- 64-67 "Now when we are clear that very minute quantities of substance have an effect, we shall have no hesitation in recognizing that in such times as the present, when so many men take incorrect nourishment and then rot as corpses in the ground, this works differently. Of course, for the earth as a whole, the effect is very diluted, but still it is different from what happened when men lived healthily. And here again, the food which grows out of the earth is a factor."
- "... The health of men is completely dependent on the growth of plants and therefore we must know what really is involved.

"I have been greatly occupied with this point in connection with Infantile Paralysis, and it has turned out that one must really concern oneself with the *whole* man. . . . There will probably have to be found a treatment made up of soda baths, iron arsenite (Fe  $As_2 O_3$ ), and of yet another substance which will be obtained from the cerebellum, from the back part of the brain of animals. It will have to be a very complicated remedy. You see, the disease of Infantile Paralysis arises from very complicated and obscure causes and so requires a complicated remedy. These things have become of urgent importance today, and it is well that you should understand the whole question of the growth of plants.

"The plant grows out of the ground.... The root grows out of the seed. Let us first take a tree; we can then pass to the ordinary plants.... (drawing on the blackboard; see illustration below] This stem which grows there [vertical brown area with vertical arrow], is really only formed because it lets sap mount from the earth, and this sap in mounting carries up with it all kinds of salts and particles of earth; and so the stem becomes hard....

"What happens, in reality? The earthy, the solid, becomes fluid! And we have an earthy-fluid substance mounting there. Then the fluid evaporates and the solid remains behind: that is the wood.

"You see, this sap which mounts up in the tree – let us call it wood-sap – is not created there but is already contained everywhere in the earth, so that the earth in this respect is really a great living Being. . . . that [sap]

which mounts in the tree is in the whole earth and through it the earth *lives*. In the tree it loses its life-giving quality; it becomes merely a chemical; it has only chemical qualities.

"So when you look at a tree, you must say to yourself: the earthy-fluidic in the tree – that has become chemical; underneath in the earth it was still alive. So the wood-sap has partly died, as it mounted up in the tree. Were this all, never would a plant come into existence, but only stumps, dying at the top, in which chemical processes are at work. But the stem, formed from this sap, rises into the air, and the air always contains moisture. It comes into the moist air, . . . into the fluidic-airy, and life springs up in it anew so that around it green leaves appear and finally *flowers*. . . . Again, there is *life*. . . . In the stem, life is always dying; in the leaf it is always being resurrected. . . . And what does this do? It travels all round and brings forth the leaves everywhere; so that you can see the spirals in which leaves are arranged. The living sap really circles round. [*see drawing*] It arises from the fluid-airy element into which the plant comes when it has grown out of the earthy-fluidic element.

"The stem, the woody stem, is dead and only that which sprouts forth around the plant is alive.... The wood with its sap cannot keep the tree alive; what comes with the leaves must come from outside and that again contains *life*... When the sap rises in the spring, the tree is created anew; ... The earth produces the sap from the earthy-fluidic; the fluidic-airy produces the living sap.

"But that is not all. While this is happening, between the bark, still full of living sap, and the woody stem, there is formed a new layer. . . . what is formed is quite solid: it is called *cambium*. It is formed between the bark which still belongs to the leaves, and the wood. [see detail illustration lower-left of drawing] . . . the cambium [is formed in] the warm air, in the warm damp, or the airy-warmth. The plant develops warmth while it takes up life from outside. This warmth goes inward and develops the cambium inside. . . . before the



[The text at the bottom of the above blackboard drawing summarizes the three plant processes and reads:

Wood-sap: Earth; Chemical

Living-sap: Surroundings of the earth: The Living

*Cambium: Stars: Spirit*]

cambium forms, there is first of all developed a thicker substance: the plant gum. Plants form this plant gum in their inner warmth, and this, under certain conditions, is a powerful means of healing. Thus the sap carried the plant upward, the leaves give the plant life, then the leaves by their warmth produce the gum which reacts on the warmth.... the cambium brings the plant into connection with the stars, with what is

above, and in such a way that within this cambium the form of the next plant develops. This passes over to the seeds and in this way the next plant is born, so that the stars indirectly through the cambium create the next plant! . . . the seed must first be worked on by the cambium, that is: by the whole heavens.

"... this carried the power to the seed to develop through the forces of the earth into a new plant."

68 – "So it is with trees, and so, too, with the ordinary plants. When the rootlet is in the earth, the sprout shoots upward. But it does not separate off the solid matter, does not make wood; it remains like a cabbage stalk. The leaves come out directly on the circumference, in spirals, the cambium is formed directly in the interior, and the cambium takes everything back to the earth with it. So that in the annual plants the whole process occurs much more quickly. . . . In the cambium one has a sketch, a sculptural activity. The stars model in it from the whole universe the complete plant form. So you see, we come from Life into the Spirit. . . . The earth first gives up her life to the plant, the plant dies, the air environment along with its light once more gives it life, and the World Spirit implants the new plant form. This is preserved in the seed and grows again in the same way. . . . "

[Steiner then reported experiments of growing plants watered with highly diluted metals or metallic compounds vs. control plants. With copper dilution the plant leaves developed wrinkles on the edges; with lead dilution the leaves became hard at the top, then withered.]

69-72 – "Now you can see of what importance it is when quite tiny amounts of any substance are mixed in the earth.... the earth is everywhere permeated with wood sap, and the tiny quantities penetrate everywhere into the ground. And having investigated how these tiny quantities work, ... we say: That which disappeared into the earth, we eat it again in our food. It is so strong that it lives in the plant form. And what happens then? Imagine I had thus a plant form from a lead-containing soil ... A plant grows out of it: one may say, a lead-plant. Well, this lead plant when we eat it, has a quite different effect from a lead-less plant. Actually, when we eat a lead plant, our cerebellum, which lies at the back of the head, becomes drier than usual. It becomes drier.

"Now you have the connection between the earth and the cerebellum. There are plants which simply through the constitution of the earth, through what men put into the earth and what then spreads everywhere, can dry up the cerebellum. As soon as our cerebellum is not in full working order, we become clumsy . . . awkward and cannot properly control our feet and arms; and when the effect is much stronger, we become paralyzed.

"Thus, you see, is the connection between the soil and paralysis. A man eats a plant. If it has something dying at the edge of the leaves, . . . his cerebellum will be dried up somewhat. In ordinary life this is not noticed, but the man cannot any longer rightly direct his movements. If the effect is much stronger, paralysis sets in. When this drying up of the cerebellum happens in the head, so that man cannot control his muscles, at first this affects all those muscles which are dependent on a little gland in the head, the so-called pineal gland. If that happens, a man gets influenza. If the evil goes further, influenza changes to a complete paralysis. So that in every paralysis there is something that is inwardly connected with the soil. . . .

"Wood-sap develops in man as the ordinary colorless mucous. Wood-sap in plants is, in man, mucous. The life-sap of the plant which circulates from the leaves, corresponds to the human blood. And the cambium of the plant corresponds to the milk and the chyle in the human being. . . . Here you have again something in human beings which is most strongly influenced by the stars, namely, milk. Decaying leaves create no proper cambium because they no longer have the power to work back into the proper warmth. They let the warmth escape outward from the dying edges instead of sending it inward. We eat these plants with an improperly developed cambium: they do not develop a proper milk; the women do not produce proper milk; the children get milk on which the stars cannot work strongly, and therefore they cannot develop properly.

"Hence this Infantile Paralysis appears specially among children – but adults can also suffer from it, because men are all their lives influenced by the stars.

"... when one eats unsound cambium as a child, one gets an unsound brain. In this way diseases are caused by what is in the earth. This is what can be said about the causes of such apparently inexplicable diseases: the causes are in the soil."

# Effects of Lead in the Body, Diphtheria

From *Cosmic Workings in Earth and Man* (London: Rudolf Seiner Publishing, 1952; GA 351), pp. 79-84.

January 19, 1924

(Rudolf Steiner has been discussing the differing effects and treatments of mineral poisons, plant poisons, and animal poisons.)

79-80 – "The human organism produces in itself a little lead, copper, phosphorous. Man produces within his organism all kinds of substances, but these substances must be produce din exactly the quantity required by the body. If lead is introduced [from outside], the body then contains too much lead. So we must ask; What is the function of lead in the human organism? If the body produced no lead, we should all be going about with rickets! Our bones would be flabby and soft. A rachitic child is one whose organism produces too little lead. The human body must contain neither too much nor too little lead. . . . Even in childhood you begin to produce lead in your bodies. But lead can really never be found in the body in any perceptible quantity because it is immediately sweated out. If it were not sweated out, you would, as quite young children, have within you so much lead that its presence could be demonstrated; and as grown-ups, far from having soft bones, you would be going about with bones so hard and brittle that if knocked at any point they would fall to pieces. . . . But if an excessive quantity finds its way into the body, it cannot immediately be sweated out again and it becomes a destructive agent. Very well - now we give water containing albumen. This is a deterrent to the injurious effects of the lead. And why? The reason why I am unable to sweat out the lead I have myself produced is that I also have albumen in my body. And when a baby is drinking the lukewarm mother's milk, one of the effects of this milk is that the child gets accustomed to sweat out the lead. Therefore lukewarm milk can also be given in a case of sight lead poisoning, and then the lead is induced to leave the body, either through vomiting or through sweating. The very last vestiges must always be got rid of by sweating.

- "... The albumen that is always present in the human being dissolves the lead. If, therefore, I introduce too much lead into the stomach and then add albumen, I am really doing what the body is doing all the time. The effects of these mineral poisons must be nullified by something that contains *life*. It must always be something that has life, either albumen-water the egg comes from the hen and has life or lukewarm milk which has come form the cow and has life; or oils that come form the plants and have life. . . . something that still contains etheric life. And so, when there is mineral poisoning, the physical body is cured by means of the *ether body*. . . .
- "... All mineral poisons cause the physical body to trespass into the ether body. If I now give the antidote, something that derives from the ether body albumen water, lukewarm milk and the like the physical body is driven out of the ether body."
- 83 "Speaking quite generally, therefore, it can be said that animal poisons work primarily in the blood, not in the digestive process."
- 84 "The effect of mineral poisons is that the physical body trespasses into the ether body. Plant poisons cause the ether body to trespass into the astral body. Animal poisons cause the astral body to trespass into the field of the 'I.' Therefore with an animal poison the only thing to do is to expel it from the blood itself, because the 'I' is the highest principle. The poison can only be expelled by something that is actually in the blood. . . . [Steiner gives the example of fighting a rabies poisoning by injecting into the patient's blood serum taken from an animal resisting rabies.] This poison can only be got rid of by the direct antidote, produced in the blood itself. . . . The human being himself produces slight animal poisons all the time. The faculties possessed by animals are due to the fact that they produce these poisons in themselves; if they did not, they would have no intelligence at all. The human being produces poisons very similar to the animal poisons, especially in organs situated near the head but again in tiny quantities of which the body can make use. If the poisons are produced too vigorously there may, of course, be an excess of such animal poisons in the organism. This is what happens, for example, in diphtheria. Diphtheria is caused by animal poisons which have been produced by the human being himself. Therefore diphtheria can be cured in a similar way by injecting the poison into an animal who can resist it and then injecting the serum again into the human being. He then has in his blood something that can fight the poison."

# Epidemic Cosmic Influences: Influenza, Diphtheria, Meningitis

From *Introducing Anthroposophical Medicine* (Hudson, NY: Anthroposophic Press, 1999; GA 312), pp. 244-253.

Also translated as *Spiritual Science and Medicine* (London: Rudolf Steiner Press, 1948/1989).

244-245 – "But if we . . . attribute everything [inflammations, diseases] to the activity of bacilli, directing our attention only to what the bacilli are doing, we are distracted from the true cause of the disease, because any habitat that lower organisms find suitable for their own development within the human body is brought about by the primary causes. For once, we need to pay attention to the domain of primary causes."

245-247 – "In plants, there is a constant interaction between the Earth's forces and the forces of the supraearthly cosmos. What is the effect of these nonearthly forces, which are always present in our environment? ... plant existence as such holds the balance between the tendency toward mineralization or salt deposition in plant tissue and the tendency toward inflammation or becoming animal-like.

"This process is always present in outer nature, but it is also present in an internalized and centralized form in the human organism....

"In the human organism, everything that is concentrated in cardiac activity needs to be kept separate from what is organized and concentrated in the lungs' internal metabolism. These two activities must be kept separate. They can be allowed to affect each other only through an etheric or astral diaphragm inserted between them. . . . I am using this word ["diaphragm"] only to suggest an image. . . . Such a diaphragm does indeed exist, and it is the external rhythm of respiration itself. At this point, you begin to see how harmony is achieved between the upper and lower regions of the human being. What we call rhythmical activity in the human being, the rhythmical trembling that is expressed outwardly and physically as respiratory rhythm, extends into the activity of the etheric and astral bodies and separates the earthly forces of the upper part of the human being, which are concentrated in the lungs, and the heavenly forces of the lower part, which work from below upward through the activity expressed in the heart, just as they work from the periphery of the cosmos toward the center of the Earth.

"Imagine that this rhythm is not working properly.... What happens then is analogous to what happens when the Earth's activity becomes too strong in plants, when earthly salt-forming activity affects the plants too strongly and they become overly mineralized. What happens then is that an 'etheric plant,' which is built into the lungs and grows up out of them just as physical plants grow up out of the Earth, becomes the cause of pulmonary hardening or the like.... the mineralizing tendency... can also become too strong in the human organism."

251-253 – "Illnesses that appear in the form of epidemics must also be considered in terms of their primary causes. The rhythm between head and chest, which has its crudest expression in the rhythm of respiration, is easily damaged in individuals who also tend to allow certain atmospheric or supra-earthly phenomena to influence them strongly. Others, whose respiratory system is healthily organized from the start, will tend to resist such influences. It is always possible for other disruptive causes to intervene, of course . . . . Suppose that during a particular winter night the Sun's activity – note that I said the Sun's activity, not the effects of light – is strongly influenced by the outer planets – Mars, Jupiter, and Saturn. Sun activity that can assert itself independently because Mars, Jupiter, and Saturn are at a distance would have a different effect from this particular winter constellation.

"During a winter like this, we can notice that the atmospheric phenomena are different. In susceptible individuals, this has an unusually strong influence on the rhythmical activity taking place between the chest and the head, whose crudest expression is the rhythm of respiration. We can say that this constellation significantly strengthens the tendency to regularize this rhythm in people who were born in healthy circumstances and are internally robust, although outwardly, of course, they may be quite frail. In these people, respiratory rhythm is very strongly regulated, as is the general rhythm between the head and the chest. An internally reinforced rhythm such as this is not easily affected by outside influences, and severely damaging factors are required in order to influence it. An influence such as the one I described, however, has an exceptionally strong effect on people in whom this rhythm is *irregular* in some way, because an already damaged rhythm tends to permit further damage. All predisposed individuals who lie on parts of the globe that are particularly affected by this heavenly constellation are candidates for so-called influenza. These influences absolutely must be present to lay the groundwork for an illness like influenza.

"In a different case, something more complicated is present. . . . human rhythmical activity as a whole is such that these rhythms [respiration and sleeping-waking rhythms], taken together, form a unity in the entire human rhythmic system. The lower rhythm may assert itself too strongly, relatively speaking, because the upper rhythm, the head-chest rhythm, is weakened. When the upper rhythm is too weak and deviates

from its proper position, it is susceptible to being made even more irregular by the lower rhythm. In this case the lower rhythm, which emanates from the activity of the spleen and from other organ activity that we will speak about later, works upward too strongly, creating the predisposition to hypertrophy of the upper digestive process withal its concomitant symptoms. . . . a domain is created that especially favors the growth of certain lower organisms. The total picture that then appears is one of symptoms of inflammation and paralysis creeping into the upper organization while the beginnings of organ malformations or new organic growths also appear there. In short, we have the symptomatology of diphtheria. I might call this a breakthrough, from below upward, in the opposition direction from the breach that occurs in typhoid fever from above downward. . . .

"In all of these issues, the age of the person in question must also be considered. During childhood, the entire interaction of the upper and lower parts of the human being as well as the rhythmical activity that mediates between them is totally different than it is in later life. In childhood, for example, the upper region of the human being must exert a much stronger influence on the lower region than is the case later on. In reality, children 'think' much more than adults do. Strange as this may sound, it is nonetheless true. Instead of becoming conscious, children's thoughts simply go into the organism and appear in its growth and in the forms it is developing. This application of thought activity to the body's formative forces is especially pronounced in the first years of life. Once the body no longer needs to use so much of the formative forces for its own purposes, they are held back and become the force that forms the basis of memory. . . .

"Everything is based on metamorphosis. What we encounter on the mental or spiritual level is only the respiritualization of an activity that worked on a bodily level when spirit was moving into matter. This explains why children have strong forces of resistance to many abdominal symptoms. Heavenly factors. supra-earthly factors, appear principally in the abdomen. Here again, imagine that a strong reflection occurs in the human abdomen as the result of a particular supra-earthly constellation of the Sun to other planets. What will the consequences be? There will be little effect on adults, in whom the rhythmical activity between the upper and lower parts of the body has already settled down to some extent, but children will have to forcefully resist the cosmic factor that wants to be reflected in the abdomen. And when a particular cosmic constellation affects a child's lower body very strongly, the upper body must resist exceptionally strongly. This convulsive, overly strong application of forces in the upper part of children's bodies causes *epidemic* cerebrospinal meningitis. This process certainly provides insight into how outer, nonhuman nature sends these influences into the human being. I might say that if you take this as a background for your observations, you can paint a picture of the entire symptomatology of meningitis, right down to the stiffening of the neck muscles. Because of the exertion taking place in the upper part of the child's body, inflammatory symptoms must appear in the upper organs, in the meninges of the spinal cord or brain, which then result in the other symptoms.

"It is especially necessary to sharpen our eye for seeing the human being in the context not only of the interactions taking place between different parts of the body but also of the interactions taking place between internal human factors and natural factors external to the human being or even external to the Earth."

## A Future Vaccine to Prevent Knowledge of Soul and Spirit

From *The Fall of the Spirits of Darkness* (Bristol: Rudolf Steiner Press, 1993; GA 177), p. 85.

## October 7, 1917

85 – "The time will come – and it may not be far off – when quite different tendencies will come up at a congress like the one held in 1912 and people will say: It is pathological for people to even think in terms of spirit and soul. 'Sound' people will speak of nothing but the body. It will be considered a sign of illness for anyone to arrive at the idea of any such thing as a spirit or a soul. People who think like that will be considered to be sick and – you can be quite sure of it – a medicine will be found for this. . . . The soul will be made non-existent with the aid of a drug. Taking a 'sound point of view,' people will invent a vaccine to influence the organism as early as possible, preferably as soon as it is born, so that this human body never even gets the idea that there is a soul and spirit.

"... the heirs of modern materialism will look for the vaccine to make the body 'healthy,' that is, make its constitution such that this body no longer talks of such rubbish as soul and spirit, but takes a 'sound' view of the forces which live in engines and in chemistry and let planets and suns arise from nebulae in the cosmos. Materialistic physicians will be asked to drive the souls out of humanity."

## October 27, 1917

199-200 – "... the spirits of darkness are now among us....

"... I have told you that the spirits of darkness are going to inspire their human hosts, in whom they will be dwelling, to find a vaccine that will drive all inclination toward spirituality out of people's souls when they are still very young, and this will happen in a roundabout way through the living body. Today, bodies are vaccinated against one thing and another; in future, children will be vaccinated with a substance which it will certainly be possible to produce, and this will make them immune, so that they do not develop foolish inclinations connected with spiritual life – 'foolish' here, or course, in the eyes of materialists.

. . .

"... a way will finally be found to vaccinate bodies so that these bodies will not allow the inclination toward spiritual ideas to develop and all their lives people will believe only in the physical world they perceive with the senses. Out of impulses which the medical profession gained from presumption – oh, I beg your pardon, from the consumption [tuberculosis] they themselves suffered – people are now vaccinated against consumption, and in the same way they will be vaccinated against any inclination toward spirituality. This is merely to give you a particularly striking example of many things which will come in the near and more distant future in this field – the aim being to bring confusion into the impulses which want to stream down to earth after the victory of the [Michaelic] spirits of light [in 1879]."

# Conditions of the 9-Year Change: Headaches, Digestive Disorders, Sleep Disorders, Anemia, Chlorosis, Warmth

From *Illness and Therapy: Spiritual-Scientific Aspects of Healing* (Forest Row: Rudolf Steiner Press, 2013; GA 313), pp. 51-60.

# April 14, 1921

51-60 – "... we find an ... important change that is more inward-directed and is not so outwardly apparent as, for instance, second dentition – which anyone will notice – or learning to speak. ... this other, more hidden process ... occurs in the period between the change of teeth and puberty, right in the middle of this period. Here the true I – which is really only exoterically born, as I have said elsewhere, born in a fully exoteric way, around the age of 20 – is born into the child, just as the astral body is born in the acquisition of speech. This process culminates between the age of 8 and 9.

"And now please consider the following. Our I-related predisposition, the I-capacity in us, is scarcely ever taken into account. Indwelling the human organism, the I does something very particular.... When we ingest food we absorb substances that are also external substances, and must be transformed within us. Who causes this transformation, this thorough transformation of outer substances within us? Who does this? In truth, it is the I. The I alone has the power of, as it were, extending its feelers down into the forces of external substances. If you have an external substance . . . it has certain forces that have to be separated out if they are to be recombined in the human organism. . . . Only the I really engages in penetrating the substances themselves and delving into them. So when you offer a food substance to the human organism, this food is first inside us. The I however reaches beyond the whole human organism and directly enters the food substance. . . . Here the outer world, in respect of chemistry and physics, and the internal world of the human being, in respect of anti-chemistry and anti-physics, extend into each other. . . .

"Up to the time when the second teeth begin to develop, thus the beginning of second dentition, this engagement with food substance is governed from the head. The child has been constituted during fetal development so that at birth he has received forces via his head that are active in assimilating substances from within. But after second dentition, in the time leading up to puberty, and culminating between the ninth and tenth year, the I that works from our lower organism, the lower I, has to meet and engage with the upper I. In children the I always acts from the upper organism to assimilate substances, until the age referred to. I mean of course the *instruments of* the I. The I itself is ultimately a unified entity. But the I's instruments – the polarity of I activity expressed in the lower I which meets the upper I – only establish a proper mutual relationship at this age between the ninth and tenth year. The I has to enter the human organization . . . .

"With these considerations in mind, let us now observe everything that becomes apparent in children from the eight or ninth year onward through to the age of eleven or twelve . . . . which involves searching for a harmony established only during the course of life between assimilated substances and our inner organization. Try to observe carefully how the head at this age does not much want to assimilate substances'

inner forces, how it objects to this, and how this comes to expression in headaches around the ninth, tenth, or eleventh year. Then observe how concomitant conditions arise in metabolic disorders, ones that manifest relatively close to the exterior, in the secretion of gastric acid and so forth. If you observe all these things you can see how some children are continually ailing, in a sense, due to this lack of adjustment between the I acting from below and from above. If we pay careful attention to such things we can remedy them, and after puberty they will normally fade and vanish; for at this age the astral body catches up and can compensate for what the I is not able to accomplish. These things gradually diminish from the fourteenth or fifteenth year through to the twentieth or twenty-first..... You will often have seen how ailing children, especially those in whom this sickliness expresses itself in digestive disorders, in irregular digestion, later go on to flourish and be fully healthy when carefully treated. It is very important that such treatment should take great care in relation to dietary prescriptions. Wonderful things can be achieved as long as the parents or teachers of children with this kind of ailment refrain from continually offering large amounts of food which they try to persuade them to eat. This will only exacerbate the condition. Instead we should try to discover what the child can easily digest, what he can assimilate especially well; and then we should serve this to him in smaller, more frequent portions, thus distributing food intake over a larger number of meals. This will do these children a great deal of good. It is quite mistaken to think we are achieving anything by over-feeding, persuasion and such like. If, in addition, we ensure that such children are not too overburdened by schoolwork - which will increasingly exacerbate their condition - but instead give them enough rest and leisure, we will also be enhancing the inwardly necessary digestive activity achieved by offering smaller portions of food.... all sorts of predispositions for illness potentially result from these digestive ailments, and can continue to affect a person for the rest of his life.

"In the Waldorf School people are quick to complain that we give children so little homework. There are good reasons for this. . . .

"A danger lies in what I will call the engagement or coupling of the lower I with the human organism. It exists really for all people, and poses a particular risk for children in modern civilization. Anyone not of sturdy peasant stock should be aware of this risk. A strong distinction still exists in relation to such things, and must be made here, between people of peasant or farming stock and the rest of us. All the rest of the world's population has a very marked predisposition to risks arising from this insufficient engagement of the I with the organism, which is thoroughly ruined before this I is due to engage it. Such risks appear as the I engages from below. In the respiratory system and also the head system, the female constitution is more susceptible to this remarkably unstable balance. Men are more robust – though not more stable – in relation to their chest organization, and therefore less sensitive or susceptible. While the same problems can affect them, these are likely to be less apparent. The female sex is more sensitive to everything that occurs here; and what I have described as the search for the right kind of engagement or coupling of the I either culminates in a healthy condition or in anemia. Anemia is the direct continuation of all abnormal occurrences of this kind after the age of seven. It only surfaces later as a disorder, but represents an intensification of factors that are present but unnoticeable at an earlier stage of life.

"Here we must make an extremely important distinction. In considering the circulatory system we must distinguish circulation itself, as a sum of motions, from what in turn intimately informs this circulation and as it were penetrates it, which is metabolism. The circulatory system is informed by an equilibrium between the metabolic system and the rhythmic system, whereas the respiratory system reveals an equilibrium between the rhythmic system and the organism of nerves and senses. Observing this middle realm of the human organism, the chest system, we have to remember that it is organized between two polarities. Through breathing it is organizationally related to the head, and through circulation to the system of metabolism and limbs. Everything in the metabolism itself or in what intimately accompanies the metabolism as our capacity for movement - which is of great importance especially in the first or 'rising' half of life – pushes its way into the circulatory forces as forces of metabolism. And this upward-pushing dynamic must in turn advance so that, in the process I described, we find that what the I brings about in metabolism and also in the assimilation of substances advances into strong engagement with the substances' inner forces. We find here an upward migration through circulation and breathing that extends as far as the head system, and this has to organize itself properly in the period I spoke of between second dentition and sexual maturity. The I's capacity to grasp hold of, to engage with, the forces of external substances, must migrate upward through circulation and breathing until it acts properly upon the head system. This is the very complex process we have to study; and we can really only do so by trying to understand its effecting what I

would call the *outer digestive tract* – where substances still strongly resemble the form they have in the outer world and where our inner processes have as yet taken only a weak hold of them. . . .

"When the I first grasps the forces of external substances this is accompanied by taste sensations, . . . the subjective experience of tasting. . . . Then the process works its way inward. But tasting also extends inward. The *inner digestive organism* – in other words on the other side of the intestine, leading over into the blood – is still an attenuated tasting. And this really continues upward, until tasting is countered in the head. Here tasting is deadened. . . .

"What occurs, in a sense, in the external digestive tract is strongly influenced by the mineral or salt element. . . .

"The most palpable and fully developed forms of, say, anemia are often accompanied by the following concomitant symptoms: tiredness, lethargy, difficulty falling asleep or in waking up. Given all these symptoms, which can affect most children between second dentition and puberty, we first have to try to remedy the condition in the external digestive tract. Here we have to use mineral substance, still entirely mineral in character. And we will find this to be beneficial. Initially these things may be observed as . . . strong symptoms, which all indicate how the I is seeking to grasp hold outwardly of the forces of external substances, and how it can be supported in this endeavor by, say, carbonated iron. Iron carbonate is something that supports the organism in combating lethargy whenever the I needs to get an outward grip.

"If we take this a stage further, we find the I intervening too weakly in the circulatory system. Then we will see how the I's lack of engagement in the circulatory organism can, for example, be supported by Ferrum muriaticum [FeCl<sub>3</sub>, called Ferrum sesquichloratum], thus by a medicine enhanced and intensified in the purely mineral realm.

"If we continue to the respiratory organism, thus advancing another stage higher, we can give very particular support to the I by using vegetable acid. Rising further, to the head system, we can do this with the pure metals – not of course as pure metals in an external sense, for initially these have no proper relationship to the human organism, but instead in their subtlest powers. . . . the human organism . . . is itself a homeopath. In the ascent from the digestive system to the head organism, it fragments the metals itself – and we can of course support the organism in this process by potentizing a substance.

"But you will find . . . that we can learn something here about potentization. We have to ascertain the actual locus of the deficiency. The lower and further away from the head the deficiency or lack of engagement is centered in the human organism, the lower should be the potencies we use. The nearer we find it to be to the head organization, the higher are the potencies required. . . .

"How the I grasps hold of the external world is a real point of departure which will enable us to fathom the symptomatic phenomena we encounter... The human organism is largely also organized fluid, organized air and organized temperature. And now, you see, the I has to engage and grasp hold of these different aspects of the organism. Especially important, and subtle in nature, is the engagement of the I in the body's different temperature conditions. The I has to engage in these temperature variations within the body in the following way.

"At birth we have an image of the I. The image of, the imprint of the I is present in the head . . . . The I is present there as image and works throughout childhood. And now, alongside this, the I must as it were give reality or existence from below, must engage in the organism. This is expressed in the fact that this image of the I we have in our head permeates our organism with warmth in childhood, . . . However, this permeation with warmth fades – it is strongest at birth in so far as the warming process issues from the head, and then falls away. And later on in life we need to maintain at a peak, from below, the warmth that develops in this way, and to do so through the engagement of the I in these temperature conditions. As we grow older we have to oppose this lapsing graph of warmth with the other, rising one, which largely depends on a capacity to grasp hold of rising forces made available from food substance, and to lead these into circulation, breathing, and the head system.

"Now let us assume that this does not happen in the proper way, that there is insufficient strength to assimilate the inner forces of external substances into the human organism. . . . In that case you are not, as you should, introducing enough warmth into the organism via the I. The head, developing only the declining graph of warmth, allows the body to grow too cold. This becomes apparent firstly at the extremities. So please observe, now, how the state of flagging energy derived from all I described today is intensified in such people – in symptoms of chilled hands and toes. This is very tangible, for you can feel here how the process that was accomplished in childhood from above downward through the image of the I is not adequately met or countered with what needs to arise from and be developed by the active I, which should carry warmth

through into the furthest extremities of the limbs. This is something that will show you how, as soon as you see things in images, as soon as you take note of how the different powers above and below are subtly interacting so that images arise, . . . In chilled hands and feet you find images of what is occurring in the whole human organism. . . .

"... What first happens when we learn to raise ourselves upright expresses a power of uplift which is in a certain sense only external. It is supported by what streams down from above. Once the change of teeth has been completed, the power to raise ourselves has correspondingly used itself up; this primary power of uplift has come to a conclusion and then the self-raising energy passes into our interior, where a balance must be created between what rises from below upward and what streams from above downward. And then the forces coming from above and those coming from below enter into mutual opposition, encounter each other. In this one-dimensional encounter, as I will call it, . . . we can see particularly well what is happening at this age. And now observe how people with, say chlorosis or anemia grow very tired. They do not feel most tired when they walk on level ground but when they're climbing stairs. This points us directly to these phenomena. People with a tendency to anemia are especially taxed by climbing stairs; and so, in such symptoms, and in what comes to living expression as a child grows, we can grasp hold of spiritual realities underlying our existence. And then we can come to the point of simply 'reading off' what we need to do to remedy abnormal conditions from what diagnostic pathology can tell us in this way."