## IRON

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It would be difficult to overstate the importance of the metal iron in the three kingdoms of nature any more than in the human organism itself or in the civilization in which we live. This civilization is a definite phase of the Iron Age and we can look back to earlier civilizations before the use of this metal was mastered. There are in myth and legend many pointers to the origins of the iron age. The figure of the Smith rises mighty in the great Finnish epic the Kalevala and we all know the verses of "Under the spreading chestnut tree". My own childhood memories are full of the magic of the village blacksmith with his forge and bellows and the hammering of the burning red horseshoes. The hammer beats of the pulse here met the breathing rhythms of the bellows and we stood spellbound before the open mysteries. Across our country are many memories of Wayland the Smith and we can trace his ancestry to the great source of human freedom in the figure of Prometheus and to the Olympian Hephaistos. Today when the figure of the blacksmith is lost to our village life we can nevertheless in the iron foundries and mighty steelworks experience on a gigantic scale these same basic themes.

Iron is the fourth commonest element in the earth crust known to us, coming in order after oxygen, silica and aluminium. It is essential to vegetable and animal life and of course to human life on earth as well. In haemoglobin it enters as a quantitatively important constituent into the blood organ, contrasting with those metals whose more qualitative presence is required in only trace amounts. It is strange therefore that its use as a remedy in medicine is relatively limited, in academic medicine to supplement the natural sources in food in cases of iron deficiency anaemia and in homoeopathic medicine to the rather thin indications for Ferrum met. and Ferrum phos.

I believe that there should be a greatly extended therapeutic use for this metal and I hope to point to some of the fields in which it can be a healing agent. Indeed it does seem to me that as we approach the parts that this metal plays in various natural realms we begin to see it as a healing force, a real undoer of poisoning over a wide range of phenomena.

The principal iron ores are distributed in the northern temperate zone where they lie close to large coal deposits. Iron in the metallic state occurs on the island of Disko off Greenland, in meteors and finely distributed in various basalt rocks. The main ores are the sulphides, oxides, carbonates and hydrates. The main sulphur ore is pyrites which is almost metallic in appearance; here the iron overcomes the sulphur. There are various forms of these iron sulphides. When exposed to air and water the ores are changed to rust and salts, they are stable only if imprisoned and protected in deeper

layers of rocks. With oxygen, iron forms ferrous and ferric oxides and the ferrous salt of ferric acid occurs as magnetite, notably at Kirunavara in Sweden. As ferric oxide it occurs as haematite which gives a reddish colour to the rocks, whereas ferrous oxide conveys a greenish colour to olivine for instance. With carbon dioxide it forms carbonates, such as siderite which bears striking resemblances to calcite. This siderite can dissolve in carbonic water to form bicarbonate of iron. In this form it appears in the chalybeate springs. The changing seasons bring about varying concentrations of carbon dioxide and iron in the water. With water, iron forms various hydrates important in the German deposits. Arsenic occurs in combination with sulphur and iron in the form of arsenical pyrites and here we can see that iron can subdue both sulphur and arsenic, rendering the latter non-toxic, Iron also combines with arsenic acid to form insoluble scorodite.

Hauschka has pointed to the appearance of two main dynamic tendencies in the crystallization or rather the pattern of crystallization of iron compounds Firstly there is a radial formation most clearly seen in marcasite, a centripetal radial pattern of crystals being especially characteristic. Secondly a tangential arrangement is typically found in haematite and limonite. These two tendencies are further combined in spiral arrangements as in many examples of siderite. "The spiral tendency always arises when time enters space and develops towards a centre. The fact that this dynamic shows up so clearly in iron ores points to the fundamental role played by the iron process, for it transforms spherical forces quite unrelated to the laws of the earth into radial forces working towards a centre. Or we can say that the function of iron is to help cosmic, weightless elements to enter the sphere of gravity. This is a characteristic of iron to be found at every level of its functioning."

We have noted the capacity of iron to unite with arsenic, rendering it non-toxic, and have seen that in pyrites the metallic nature of iron masters and overcomes the sulphurous tendencies. It further has the capacity to combine with cyanide to form the prussian blues and ferrocyanides and render the cyanide harmless. In the chalybeate springs, the changing seasons dissolve or precipitate the iron compounds, showing how iron responds to these rhythmic processes of the earth. We also find that in its compounds with oxygen, the ferrous and ferric oxides, it shows a wonderful responsiveness to light. These two forms easily change into each other, the iron taking up and giving up oxygen with equanimity and showing no preference for the bi- or tri-valent forms. Light is a powerful agent for converting ferric to ferrous oxide. These phenomena led Pelikan to characterize iron as the breather among the metals'. A further example of the detoxicating function of iron is found in the rivers and seas. Lead, copper, arsenic, mercury and other metals are constantly being washed down to the seas where they would make life impossible were it not for the hydroxide of iron washed down with them which combines with them and precipitates them to the floor as mud.

Not only is iron responsive to light and the warmth of the seasons, it

is also responsive to magnetic fields and takes up magnetism. Pure iron is soft and malleable and will scarcely maintain its form. But it has a remarkable quality of absorbing carbon which confers upon it the rigidity of the earthly state in cast iron. Together with various metals such as chromium and tungsten, carbon gives qualities to iron which then as steel fit it for the enormously varied needs of technology. Not only can it be made rigid, elastic and so on, but it will retain magnetism—which pure iron almost immediately loses when removed from the magnetic field. So that we see that iron can also respond to the qualities in carbon and these metals, absorbing and retaining their forces. It is responsive both to the influence of light and to the gravitational and magnetic forces of the earth.

We can now turn to the functions of iron in the vegetable and animal kingdoms. Our attention is at once gripped by the green chlorophyll of plants and the red haemoglobin of animal blood. These two substances are basically very similar, only chlorophyll contains magnesium whilst haemoglobin contains iron. Chlorophyll cannot be formed in the absence of iron, but it cannot take it up into itself. In haemoglobin the iron is interiorized. When iron and magnesium are removed from haemoglobin and chlorophyll, the porphyrins are so to speak the break-down product. Introduced into the animal organism, these open it to the poisonous effects of light. The porphyrins are constructed out of four pyrrole rings and pyrrolidine enters into many plant poisons such as the alkaloids of tobacco, belladonna and coca. In these phenomena we can see the metals iron and magnesium antidoting or overcoming the poison and even converting it into life-building substance. Are the porphyrins themselves the destructive agents or do they act as media through which the destructive action of, say, light penetrates into the organism?

When the animal organism and particularly the human is exposed to light, the pigment melanin is formed. This happens in the eye, or again in the skin as a response to sunlight. Melanin pigments do not contain iron but like chlorophyll, they can be formed only in its presence. The ink of the cuttlefish is also related to its extraordinary and wide open eye.

Pelikan has shown how in the plant kingdom the appearance of alkaloid poisons comes about, as forces akin to the specifically animal forces penetrate too deeply into the vegetable sphere. These forces, often referred to as astral, normally contact the plant in its hlossom. There they paralyse vitality and growth and eliminate the green colour. If they penetrate more deeply then poisonous substances are found. In the human, the nervous system is the specific organ for these forces which here penetrate into the organism as paralysing, katabolic destructive processes. But it is on the basis of these destructive processes that consciousness can arise, the price being a constant sickening from the nerve pole of our organisms. Against this sickening the iron in the blood provides a constant healing activity comparable to its healing of the poisonous porphyrins. We have already seen that iron can subdue the sulphur processes which arising from the metabolic pole strive to

overcome consciousness in a polar form of disease. Iron acting as a rhythmic breathing element works to balance and heal both tendencies to illness which we forever carry within us. This rhythmic balancing function also makes it possible for iron to become the bearer of our ego freedom and presence of mind.

If we look at the homoeopathic drug picture of Ferrum met, we find headaches with a distinctly migrainous character conspicuous. They are full bounding headaches revealing a bursting through of the sulphurous metabolic processes into the realm of consciousness. Iron can help to subdue these too turbulent, exuberant forces. The Ferrum patient is chilly, and deficient in warmth. Iron enables the imponderable element of heat to enter into the organism. The blushing and blanching reveal the sensitive responsiveness of iron which we have noted and this responsiveness is further revealed in sensitivity, particularly to noise. Gentle, slow movements are said to help these patients and we can guess that such movements act into the general rhythmic system in contrast to the vigorous ameliorating exertions of Sepia which relieve rather the liver and portal congestions.

Ferrum phos. helps in inflammatory conditions, particularly of the respiratory tract, and in a less acute phase Pyrites is of help in tracheitis and bronchitis.

We have seen how iron is in a sense a real remedy for the inberent illness of the nervous system. Treichler2 has suggested the use of Catoptrite and Berthierite in multiple sclerosis. Catoptrite is an iron antimony compound and in Berthierite sulphur is added. In the earlier time when acute poliomyelitis was epidemic, zur Linden reported on the very useful action of Scorodite (iron arsenate) in this disease. In multiple sclerosis the earliest lesion is probably in the optic nerve and visual tract. Not only is retrobulbar neuritis often the earliest presenting symptom, but recent studies have shown that in practically all cases of multiple sclerosis there is a demonstrable delay in conduction from eye to visual cortex. I have personally noticed a great deficiency in the capacity to produce 'after-images' in these patients. Can we perhaps interpret these phenomena as indicating that light itself is here again acting as a toxic agent? Can we not take it that normally light is digested in the eye and does not pass into the nervous system as a foreign element? It is met by the blood in the retina and the sclerosing, destructive effects of light are met my the metabolic dissolving inflammatory forces of the blood. Anyone who will spend a little while observing the phenomena of after-images can soon observe the rhythmic play of colours continuing for some minutes. In these rhythmic phenomena, can we perhaps see the iron again playing its 'breathing' role and how it helps in a healing manner to mediate between the sclerotic and inflammatory tendencies we have mentioned? We can, following Treichler, envisage the morbid process in multiple sclerosis as consisting in the process normal on the retina being displaced further and further, so to speak, into the brain and spinal cord. The first

phase of the attack, demyelination, is an extension of the normal dying, sclerosing, 'life' of the nervous system which then arouses an inflammatory, explosive, counter movement from the blood. This inflammatory reaction is often more destructive than the original demyelination. The plaques can in this way be understood as displaced eyes, attempts to form eyes within the nervous organ itself. We can hope that iron may help to antidote the toxic effects of light, that it may help to bring this imponderable constructively within the earthly realm, and may restrain a too violent inflammatory reaction. By exerting its rhythmic tendency it can intermediate between the two poles. Something of all this can be seen in the psychic phenomena of these patients. On the one hand their thoughts and mental life become very scatterbrained even for our scatterbrained generation, they find it difficult to bring the synthesizing force of the will into their thoughts to enliven what have become excessively dead and abstract items of mental existence. On the other hand they cannot infuse their life of will with ideals and conscious goals. The life of will becomes blind impulsiveness, they cannot inform the will with purpose. In the course of working with these patients I have found that these remedies do seem to help this divided state of soul even when the organic state does not respond. I have the impression that one can often act therapeutically in this way and one can have an idea of what one's therapeutic goal can be.

Another of the great epidemic diseases of today may also call for iron. I refer to depression, that state of paralysis of the will which is so common. Aurum, gold, is the most famous homoeopathic remedy for severe depression, but we should also consider Stannum, tin, and Ferrum, iron. The relation of depression to the liver is obvious in the experience of hepatitis and tin and iron have a special relation or affinity for the parenchymatous and bile functions. Whilst tin may be said to arouse and unlock the torpid and paralysed will, iron will serve more to fan it with enthusiasm and give it individual force to take its place in the world, to fight for its place. Gold is concerned more with the despair of existence and those depressions whose solutions point to a transformation of life's goals and meanings. It has to do with the transformation of material into spiritual goals. There are of course many other remedies needed in depression, but these three give a certain orientation in penetrating the dark enigmas of this state. There are many preparations of these metals to choose from. I must draw attention particularly to the vegetabilized metals, the metals potentized by the passage through corresponding plants. Particularly of use in depression are Stannum per Taraxacum, Ferrum per Chelidonium and Aurum per Hyperieum. They also can be given by injection.

Finally there is the possibility of using iron in various potencies and forms in the treatment of rheumatoid arthritis. This suggestion from Selawry's still lies perhaps for the future to take up and work out.

I have attempted a very compressed sketch as an introduction to the

study of iron and its extended therapeutic field. It is far from comprehensive and needs working out and expanding in all directions. I am indebted for the basic contributions on which I bave drawn to the Anthroposophical School and in particular to Pelikan's book The Secret of Metals' and the relevant section in Hauschka's The Nature of Substance, also to Treichler's work on multiple sclerosis and his contribution on depression.

I hope that what I have been able to bring forward in a short time may help some of you to see that we can press on to an understanding of therapy and also that we are only at the beginning of the development of our method. Homoeopathy is not a finished, closed science; it is the first beginning of a new grasp of the problems of illness and healing to lead into the future.

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